

Wissahickon Responsiveness Summary - Oct. 9, 2003

Letter ID	Public Comment	EPA Response
01-01	E-mail commentor - General	See Response to Letter # 19.
02-01	E-mail commentor - General	See Response to Letter # 19.
03-01	E-mail commentor - General	See Response to Letter # 19.
04-01	E-mail commentor - General	See Response to Letter # 19.
05-01	E-mail commentor - General	See Response to Letter # 19.
06-01	E-mail commentor - General	See Response to Letter # 19.
07-01	E-mail commentor - General	See Response to Letter # 19.
08-01	E-mail commentor - General	See Response to Letter # 19.
09-01	E-mail commentor - General	See Response to Letter # 19.
10-01	E-mail commentor - General	See Response to Letter # 19.
11-01	E-mail commentor - General	See Response to Letter # 19.
12-01	E-mail commentor - General	See Response to Letter # 19.
13-01	E-mail commentor - General	See Response to Letter # 19.
14-01	E-mail commentor - General	See Response to Letter # 19.
15-01	E-mail commentor - General	See Response to Letter # 19.
16-01	E-mail commentor - General	See Response to Letter # 19.
17-01	E-mail commentor - General	See Response to Letter # 19.
18-01	E-mail commentor - General	See Response to Letter # 19.
19-01	The strongest protections proposed in the TMDL will end on July 31 of each year. This means that during the remainder of the summer when the Creek is at low flow and most at risk from pollution, it will receive inadequate protection. The stricter standards should continue through September to protect the creek when it is most vulnerable.	The varying allocations for the early summer and late summer are based on the changing state adopted water quality standards for dissolved oxygen. The limits established in this TMDL are protective of stream uses for both periods. The limits are also based on a low stream flow condition that will occur during the early summer as well as the late summer periods. Because the TMDL is designed to meet standards for both periods, the stream will be adequately protected during the critical environmental conditions.

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19-02	The "low flow" calculation used in the TMDL is two and a half times higher than the measured flow. This contrived low flow number over estimates the amount of water in the creek at low flow and will lead to inadequate reductions of pollutants in the creek. The TMDL should use the actual measured low flow number to protect water quality.	<p>The TMDL report and the modeling technical report addresses this issue. The commenter is referred to those reports for detailed discussion on how the low flow design condition was determined and the basis for the method used. EPA believes that the design flow used in this TMDL is appropriate and protective of stream uses and water quality standards.</p> <p>Although the critical flow for TMDL analysis is noted to exceed the 7Q10, this is due largely to the assumption that sewage treatment plants discharge at design flows specified in their respective NPDES permits. For TMDL calculation, design flows must be incorporated into the critical condition so that accurate WLAs can be determined for each permitted flow. Although NPDES permit holders may not historically discharge at design flows, WLAs must be calculated for those flows that are allowable under the permits. Therefore, to include these design flows with a background flow under 7Q10 conditions, a unique methodology was required. The sum of these effluent flows is 27.96 cfs, which exceeds the 7Q10 by 172% and conservatively considers critical conditions when the background streamflow is at 7Q10 low-flow conditions. Such conservativeness provides assurance that wasteload allocations are protective of the stream during critical low-flow.</p>

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19-03	<p>In this draft the biggest discharger of treated sewage into the Wissahickon Creek is not required to reduce its discharges. To fully protect the creek from excessive nutrient pollution, all upstream sewage treatment plants including the large ones, should be required to reduce their nutrient discharges.</p>	<p>In order to fully understand the reasoning behind the allocations made to the largest facility (Ambler) discharging to the Wissahickon one does need to understand the impacts of dilution and the actions and reactions of nutrients and other pollutants in the water body. The facilities discharging to the upper reaches of the stream are essentially the stream, i.e., there is no, or very little, water in the stream before the facility discharges its waste water. Because of this, very low concentrations of the pollutants are needed in the effluent to assure that the water quality standards are met. As this waste water travels downstream, the associated pollutants are 'assimilated'. That is how natural processes work to remove them from the stream, processes such as biological degradation of carbonaceous material and algal activity and other processes work to introduce additional dissolved oxygen into the stream. By the time this water reaches the Ambler discharge much of the nutrients have been removed from the stream. In addition the volume of water in the stream has increased. This process in total then provides water to dilute the waste water from Ambler. This dilution thus allows Ambler to discharge a waste that is higher in nutrient content. Other processes in the stream also change as the water volume increases and stream characteristics change. As all of these processes are analyzed as a whole, it can be shown, as has been done in the TMDL, that downstream waste water facilities have the benefit of changing stream conditions resulting in less of a pollutant reduction. The allocations for Ambler, although less stringent than for those facilities in the water's headwaters, will allow the stream to attain and maintain water quality standards. An understanding of the actions and interactions between the pollutants, algae and other biological processes occurring in the stream is needed to understand why nutrient load reductions are less for a larger facility. The commenter is urged to review the modeling report to get a better understanding of the natural processes considered in the development of the TMDL.</p>
19-04	<p>Finally, the Wissahickon Creek should be required to meet the drinking water quality standards for nitrates and nitrites at its mouth since it empties into the Schuylkill River just a half a mile above the Philadelphia Water Department's Queen Lane intake. The draft TMDL relies too heavily on the Schuylkill River to dilute the nutrient pollution to meet drinking water quality standards. If for some reason, water drawn by the Queen Lane intake should contain a greater percentage of Wissahickon Creek water than EPA predicted, the Nitrate-Nitrite standard for drinking water supply could be violated and drinking water consumers could be placed at risk. The EPA should use the more protective methodology from the January 2003 draft TMDL</p>	<p>State water quality standards require that a nitrite-nitrate concentration of 10 mg/L be met at the point of water supply intake. Since there is no intake at the mouth of the Wissahickon Creek, requiring this concentration to be met at the mouth would be inconsistent with the state standards. EPA believes that a sufficient margin of safety has been included in the calculation of the nitrite-nitrate load reductions to fully protect the Philadelphia water supply intake. However, should conditions change in the future, then the TMDL will be reinstated. The commenter is referred to the TMDL report and the nutrient modeling report for a further discussion on how the Schuylkill River was considered in the analysis.</p>

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20-01	E-mail commentor - General	See Response to Letter # 19.
21-01	E-mail commentor - General	See Response to Letter # 19.
22-01	E-mail commentor - General	See Response to Letter # 19.
23-01	E-mail commentor - General	See Response to Letter # 19.
24-01	E-mail commentor - General	See Response to Letter # 19.
25-01	E-mail commentor - General	See Response to Letter # 19.
26-01	E-mail commentor - General	See Response to Letter # 19.
27-01	All general questions, please see responses to #19.	See Response to Letter # 19.
28-01	E-mail commentor - General	See Response to Letter # 19.
29-01	E-mail commentor - General	See Response to Letter # 19.
30-01	E-mail commentor - General	See Response to Letter # 19.
31-01	Some previously submitted comments are still relevant. The Borough of Ambler has previously submitted many comments, especially on March 28, 2003 and April 11, 2003. While EPA has responded to many of those comments, some of the previously submitted comments are still relevant, and are included again with this set of comments. Some previously submitted technical comments and statements of fact have not been repeated in this document.	EPA has included the Response to Comments for the March 2003 draft TMDL.
31-02	Request for supporting documents. As requested in our February 14, 2003 letter, and again in our comments submitted April 11, 2003, we hereby request copies of all references and related documentation utilized in preparing this TMDL, including, but not limited to, all the materials referenced in Section 1.0 of the Draft TMDL, all the documents listed in Section 7.0 of the Draft TMDL, and the actual justification documents prepared for placing the Wissahickon Creek and associated tributaries on the 303d list	EPA is preparing a decision docket that will contain all of the documents that were used in the development of the TMDL in one location. This docket will be extensive. The commenter is invited to visit the EPA Region III offices and review the docket. We would be prepared to make copies of those documents that, during the visit, the commenter identifies. The complete documentation for the listing of the Wissahickon Creek and its tributaries in the state's section 303(d) list would be available from the state. It is suggested that the commenter contact the state to obtain this information.

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31-03	The 30-day comment period for the simultaneous review of both the computer model and the TMDL documents is inadequate. Although the dischargers appreciate EPA's incorporation of many of our comments in the revised documents, simply too much material has been distributed for a thorough review to be completed in 30 days. Therefore, the dischargers may raise technical issues in the future after subsequent review of the TMDL documents	The dischargers may raise technical and other issues at any time. Note however, that EPA will be issuing this TMDL by no later than October 9, 2003.
31-04	All references to ortho-PO4 must be changed to ortho-PO4-P. EPA has indicated that the intended analytical parameter for ortho-phosphate will be ortho-PO4-P. All references in the TMDL documents should be revised accordingly.	All references to Ortho-PO4 have been changed to Ortho-PO4-P. In the rare chance that a reference has slipped through without being changed to Ortho-PO4-P, all readers should fully understand that the correct reference throughout the report is Ortho-PO4-P.
31-05	Data collected between the years 1990 and 2002 verifies that the wastewater dischargers on Wissahickon Creek do not pose a credible threat to the drinking water supply for the residents of Philadelphia. No potable water supply intake exists on the Wissahickon Creek, nor is any potable water supply intake planned for the Wissahickon Creek. Application of potable water supply criteria are inappropriate.	The NPDES permitted discharges have been given the privilege of discharging their waste water to the Wissahickon Creek or its tributaries. With this privilege comes the responsibility of the dischargers to assure that the users of the stream's water are fully protected against health and other issues. In addition, Pennsylvania's water quality standards protect the public water supply use statewide. Specifically suggesting that because there are no withdrawals on the Wissahickon there is no need to protect for potable water supply, and hence no need to reduce nitrite-nitrate levels in the effluent, is a narrow interpretation of the regulations and does not support the dischargers expected responsibilities. It is fully known that the City of Philadelphia has a potable water supply intake on the Schuylkill River and just a few hundred feet below the confluence with the Wissahickon Creek, and on the same river bank as the Wissahickon Creek. EPA hopes that it is also obvious to all that because of the location of this withdrawal Wissahickon water is part of the intake water and therefore portions of the Wissahickon water is used as a potable water supply. Therefore steps must be taken by those with the privilege of discharging waste water into the Wissahickon to assure that the water supply intake, whether or not that intake is directly on the Wissahickon Creek is adequately protected.

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31-06	Data collected between the years 1990 and 2002 verifies that the wastewater dischargers on Wissahickon Creek do not pose a credible threat to the drinking water supply for the residents of Philadelphia. The data presented by EPA in Appendix B of the TMDL document indicates that the maximum nitrate-nitrogen concentration observed at the mouth of the Wissahickon Creek between the years 1990 and 2001 was 7.89 mg/l. A sample collected by PADEP on August 15, 2002, when the average daily flow was 16.0 cfs (less than 7Q10) produced a nitrate-nitrogen concentration of 5.57 mg/l. Philadelphia Water Department has indicated maximum reported nitrate-nitrogen concentrations at the Queen Lane intake of 6 mg/l. These facts are presented to contradict the hyperbole that the WWTPs on the Wissahickon Creek pose a threat to the babies of Philadelphia.	US EPA is not stating that the Borough of Ambler is a threat to drinking water supplies. Rather, the TMDL is designed to ensure that at critical low flow conditions, when dischargers are at design effluent flows, drinking water supplies are protected. Wasteload allocations determined for the TMDL cannot impact the other designated uses, especially those related to human health.
31-07	Data collected between the years 1990 and 2002 verifies that the wastewater dischargers on Wissahickon Creek do not pose a credible threat to the drinking water supply for the residents of Philadelphia. No nitrite-nitrate NPDES effluent concentrations should be proposed for any wastewater treatment plant as part of the Wissahickon Creek TMDL.	EPA disagrees with this statement. Please see the response to comment 31-05 for EPA's position on the need to protect the water supply and the NPDES dischargers responsibilities to that end.
31-08	The Wissahickon Creek meets warm water fishes (WWF) during critical low flow periods.	The TMDL was based on assuring that the standards will attain and maintain existing water quality standards. Part of maintaining the standards is to look to the future to assure that standards will be met when the point sources are at full design flowdesign capacity.
31-09	The Wissahickon Creek does support the maintenance of stocked trout. Water with adequate dissolved oxygen for trout is available in the lower portions of the Wissahickon Creek during drought conditions. Therefore, the Wissahickon Creek continues to "maintain stocked trout" through the end of July 31, even during drought conditions.	Although the dissolved oxygen is adequate for trout stocking in the lower portions of the Wissahickon Creek, the same does not hold true for the upper portions and several of its tributaries, particularly under the design conditions. Since the trout stocking use designation applies to the entire Wissahickon Creek watershed, the statement that "...the Wissahickon Creek continues to maintain stocked trout throughout the end of July 31, even during drought conditions." is not accurate.

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31-10	<p>The trout stocked fishery criteria are being improperly applied. Upstream of Route 73, the designation of "maintenance of stocked trout" is an unattainable designated use during drought conditions in the Wissahickon Creek. The criteria for warm water fish can be maintained during drought conditions. The municipal dischargers object to the misapplication of the trout-stocking criteria in drought conditions.</p> <p>If EPA persists in applying the Trout Stocked Fishery criteria during critical low flow conditions, a Use Attainability Analysis (UAA) may be required to support the stream designation.</p>	<p>Federal regulations require that the TMDL be developed to attain and maintain existing water quality standards. Those existing water quality standards include a use designation of trout stocking for the entire Wissahickon Creek watershed. EPA properly applied the trout stocking criteria for dissolved oxygen as the basis for this TMDL. There are procedures for requesting and developing a use attainability analysis (UAA) to determine if a change in the a stream's use is appropriate. We suggest the commenter contact the state to get additional information on procedures if they wish to pursue a UAA.</p>
31-11	<p>The Pennsylvania Fish and Boat Commission's criteria presented in Management of Trout Fisheries in Pennsylvania Waters (1997) preclude the realistic possibility of trout stocking upstream of Route 73. No reach of the Wissahickon Creek between the Ambler WWTP and Fort Washington State Park would meet the availability and access requirements necessary to allow public trout fishing.</p>	<p>EPA has followed federal regulations in the use of the existing water quality standards for the development of this TMDL. EPA will not address possible standards changes or the appropriateness of existing standards in this TMDL. Any issues or concerns with existing standards should be directed to the state through the appropriate procedures.</p>
31-12	<p>The draft TMDL document provides specific guidance on improving water quality. Reference is made to section 5.1 where the EPA discusses how best management practices (BMPs) can be used to improve water quality. This section states, "Such management practices would also address those stream segments of the Wissahickon Creek basin included on the 303(d) list as a result of impairments associated with water/flow variability." The use of BMPs is a viable option that should be considered before imposing unnecessary TMDL once enough scientifically valid data are generated to determine what needs to be done.</p>	<p>The use of appropriate BMPs is a viable option for meeting the TMDL. Federal regulations to provide for the delay of the development of a TMDL until BMPs have been installed and evaluated. The results of the TMDL can be used as a basis for determining the need for BMPs, determining the level of removal necessary from BMPs to meet water quality standards and the general location of where BMPs would be most effective.</p>

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31-13	Areas of low DO occur in open canopy areas, which can be improved with BMPs. The second and third paragraphs of Section 5.1 of the Draft TMDL discuss that poor biological conditions are controlled by extremely shallow conditions in the stream and lack of sufficient shading. The Draft TMDL mentions that Best Management Practices (BMPs) should be considered to reduce biological activity, which causes diurnal variability of DO. EPA should apply this approach to all the areas of the Wissahickon Watershed where low diurnal AM DO values were observed before EPA issues any numerical TMDLs that would be issued into NPDES permits.	It is the dischargers responsibility to meet water quality standards. EPA will not apply BMPs, including the use of increased shading, in determining permit limits. Federal regulations and guidance allow for trading programs. If the discharger wishes to consider the possibility of trading options between point and nonpoint source controls, there are procedures for addressing that. However it is the dischargers responsibility to evaluate this tradeoff not EPA's. EPA nonetheless continues to encourage local efforts to restore the tree canopy and historian buffers.
31-14	Basis for 303(d) listing decision not provided with draft TMDL. The Draft TMDL does not include any specific documentation regarding the existing condition of the benthic community. Only references to previous studies are included, but copies of these references are not provided, nor are any specific quantifiable conclusions presented.	The state developed the list of waters in accordance with federal regulations. Each year the lists were developed, EPA reviewed and approved those lists. This process was completed outside of the TMDL development process. Documentation of the listing decisions can be found through the monitoring and assessment program. In addition, the lists have all been noticed for public comment, before EPA approval, at which time the public, including the commenter, had the opportunity to request the listing supporting information as well as question the listing of specific waters. Since adequate public participation for the listing decisions were made available through the listing process it has not and will not be repeated here. It is suggested that the commenter contact the state concerning the listing of any waters.
31-15	No reasonable assurance presented that the proposed changes in WWTP effluents will affect benthic community. The fact that the observed in-stream DO did not violate the Warm Water Fishery criteria suggests that the wastewater treatment plants are not impairing the benthic community within Wissahickon Creek. The proposed adjustments to the NPDES permits may cause an increase in the DO in the Creek, but since the minimum DO is already above 4.0 mg/l, EPA cannot reasonably assure that the benthic community will improve.	The TMDL considered critical design conditions in the development of the TMDL. These design conditions included an increase in effluent flow based in permitted values. Under those conditions it was noted that additional treatment was needed in order to assure that not only the warm water fishes use was protected but also the trout stocking use. The sediment TMDL was based on the need to protect benthic communities. During the summer 2003 monitoring period, a period characteristic of low flow, several violations of the aquatic life DO standard occurred on both Wissahickon Creek and Sandy Run. At critical low-flow conditions (7Q10), impacts on DO are expected to become worse. The calibrated water quality model verified this assumption, showing low DO at various locations in the watershed as a result of point source contributions of nutrients and impacts on biological processes in the stream. The TMDL Report and Nutrient Modeling Report clearly report this linkage, which is supported by a water quality model with a strong basis in general scientific practices.

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31-16	PADEP sampling procedures may have violated critical EPA protocols. Analyses of the benthic community and DO measurements intended to demonstrate non-attainment of water quality criteria should be conducted over a 100 meter reach of stream to eliminate the possibility that the observed "deficient" area was not simply an anomaly, or due to non-representative sampling. Many of PADEP's dissolved oxygen measurements were indicated as being "directly" upstream or downstream from bridges. The proximity of bridges to sampling locations may invalidate the results obtained at those locations. Similarly, PADEP's dissolved oxygen measurements appear to have been collected in one isolated location, thereby not providing a representative analysis of the overall aquatic environment.	The quality assurance work plan developed by PADEP was reviewed and approved by EPA. The sampling was conducted consistent with that work plan. The basics of the sampling program was also shared with those interested citizens in the Wissahickon and PADEP and EPA addressed any comments that were received.
31-17	EPA has assumed unrealistic flow scenarios. The dischargers currently do not discharge at their design flows in the summer months, and it is not anticipated that this will happen anytime in the near future. The model is based on low flow conditions. The probability of all dischargers meeting their design flow at the same time during low flow conditions is highly unlikely and not a realistic basis for imposing TMDL. We submit that EPA has the leeway to consider this factor and thereby use realistic conditions.	The commenter is referred to Appendix D of the TMDL report for a discussion on this issue.
31-18	<p>The draft TMDL will impose a significant and unnecessary economic burden on the residents of Montgomery County. Cumulatively, the economic impact to residents of southern Montgomery County will be measured in the tens of millions of dollars, without any funding or reimbursement from the federal or state governments. The draft TMDL will impose significant and unnecessary capital and operating costs on the municipalities without scientific justification and with no reasonable assurance that the TSF designated use will be satisfied during critical low-flow periods.</p> <p>The municipalities support improving the water quality of the Wissahickon Creek. However, the municipalities object to federal and state mandates requiring the expenditure of large sums of taxpayer and ratepayer money on initiatives that may actually provide no discernable benefit to the Wissahickon Creek.</p>	EPA believes that considerable positive impacts will be achieved with the implementation of these TMDLs. EPA also believes that this TMDL may be the first step in nutrient controls. Please see the discussion in Appendix D of the TMDL report. Regarding cost for implementation, EPA provided an overview of some of the potential options for funding in section 5 of the TMDL report.

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31-19	<p>The proposed TMDL will actually harm the environment. The specific WLAs presently proposed by EPA will cause considerable increases in electricity consumption, the transportation, unloading and handling of chemicals, and substantial increases in solids production (whether chemical or biological) at most of the wastewater treatment plants discharging into the Wissahickon Creek. The sole purpose of increasing the DO in the Wissahickon Creek is to support trout that are not stocked in the upstream portions of the Creek and which could not survive in the upstream portions of the Creek during low flow conditions (regardless of DO). The Draft TMDL presently proposed by EPA will have the net effect of damaging the environment.</p>	<p>This is an interesting comparison made. However, it was made with no data supporting the statement that "The Draft TMDL presently proposed by EPA will have net effect of damaging the environment." EPA has provided a TMDL with scientifically-based data and evaluations that support the results. It would be interesting if the commenter would provide similar scientifically-based supporting information for their statement. Without that supporting data and information to evaluate EPA cannot possibly provide meaningful comment on the commenters unsubstantiated claim.</p>
32-01	Same as 31-1.	See the response to Letter # 31-1.
32-02	Same as 31-2	See the response to Letter # 31-2.
32-03	Same as 31-3	See the response to Letter # 31-3.
32-04	Same as 31-4.	See the response to Letter # 31-4
32-05	Same as 31-5.	See the response to Letter # 31-5.
32-06	Same as 31-6.	See the response to Letter # 31-6.
32-07	Same as 31-7.	See the response to Letter # 31-7.
32-08	Same as 31-8.	See the response to Letter # 31-8.
32-09	Same as 31-9.	See the response to Letter # 31-9.
32-10	Same as 31-10.	See the response to Letter # 31-10.

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32-11	<p>The Pennsylvania Fish and Boat Commission's criteria presented in Management of Trout Fisheries in Pennsylvania Waters (1997) preclude the realistic possibility of trout stocking upstream of Route 73.</p> <p>The only portions of the Sandy Run which did not meet the minimum DO criteria for TSF were open canopy sections in golf courses. Other portions of the SANDY Run, downstream of the golf courses, do meet the minimum DO criteria for TSF. No private golf course will be stocked with trout by the Pennsylvania Fish and Boat Commission. Therefore, it is absurd to require the Township of Abington and its residents to expend millions in dollars, and to add chemicals and processes at a WWTP, solely for the purpose of making a portion of the Sandy Run suitable for trout, even though all parties acknowledge the Sandy Run will never see a stocked trout!</p>	<p>Federal regulations require that the TMDL be developed using the existing water quality standards. Pennsylvania has established standards for Sandy Run that include numeric criteria, narrative criteria and use designations. The use designation as established by Pennsylvania and approved by EPA is trout stocking and warm water fishes. The trout stocking applies from February thru July and the warm water fishes the reminding part of the year. In addition to support this designation dissolved oxygen numeric criteria have been established. This TMDL, as required by law, has been established based on those existing and applicable standards. If the commenter has concerns about the standards it is suggested that the commenter discuss these concerns with the state water quality standards program staff.</p>
32-12	Same as 31-12.	See the response to Letter # 31-12.
32-13	Same as 31-13.	See the response to Letter # 31-13.
32-14	Same as 31-14.	See the response to Letter # 31-14.
32-15	Same as 31-15.	See the response to Letter # 31-15.
32-16	Same as 31-16.	See the response to Letter # 31-16.
32-17	Same as 31-17.	See the response to Letter # 31-17.
32-18	Same as 31-18.	See the response to Letter # 31-18.
32-19	Same as 31-19.	See the response to Letter # 31-19.
33-01	See Letter number 34.	See the response to Letter # 34.
34-01	<p>We disagree with the entire premise that the draft TMDL will help maintain the designated use of the Wissahickon Creek, that of a Trout Stocked Fishery (TSF). Trout do not exist in the upper reaches of Wissahickon Creek, and to our knowledge they have not in the past. The upper reaches of the Wissahickon Creek will not support trout at the low flow periods for which the TMDL has been prepared.</p>	<p>The TMDL correctly uses the existing water quality standards for the Wissahickon Creek as established by PADEP, as required by law and regulations. These water quality standards include a use designation of trout stocking with the associated numeric criteria for dissolved oxygen. These standards will be met when the TMDL is implemented.</p>

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34-02	The draft TMDL imposes restrictions on the direct dischargers that will result in the imposition of NPDES effluent standards that are unrealistic, economically burdensome, not fully supported by sound science, and are unnecessary to help maintain the designated use of the Wissahickon Creek. The draft TMDL, once they are incorporated into Upper Gwynedd's NPDES discharge permit, will not be consistently achievable with a reasonable margin of safety by technology that currently exists at the Upper Gwynedd Wastewater Treatment Plant (WWTP).	EPA has not established the TMDL based on the treatment capabilities of the existing waste water treatment facilities. Rather the TMDL has been established to assure that the existing water quality standards will be met. EPA acknowledges that additional waste treatment at the significant point sources may be necessary to meet the TMDL requirements.
34-03	The draft TMDL will impose a significant and unnecessary economic burden on the dischargers and taxpayers. The draft TMDL will impose significant and unnecessary capital and operating costs on Upper Gwynedd without scientific justification and without supporting the TSF designated use.	It is the facilities responsibility through the effluent permitting process to assure that the discharge of waste water will not impair or cause impairment to the receiving water quality standards. Since the TMDL is designed to meet the applicable standards, the significant sources must achieve those requirements. EPA believes the TMDL is based on strong scientific data and information. EPA further believes that information provided by the commenters does not provide any additional scientific-based data but rather opinions and projections.
34-04	The draft TMDL phosphorus standard cannot be met with the existing WWTP facilities. Achievement of ammonia significantly <1 mg/l, and CBOD5 of 5 mg/1 is difficult with any reasonable margin of safety. The CBOD5 and ammonia draft TMDL, while achievable with the existing WWTP technology, would still require extensive modifications at significant cost to provide the margin of safety needed for consistent NPDES permit compliance.	EPA developed the TMDL based on the need for those significant sources to assure that water quality will be adequately protected, as required by the Clean Water Act. A number of alternatives were evaluated as a result of public comment to maximize implementability as well as achieving water quality standards. The final TMDL reflects those analyses.
34-05	No potable water supply intake exists on the Wissahickon Creek, nor is any potable water supply intake planned for the Wissahickon Creek. Application of potable water supply criteria is inappropriate	EPA is concerned with the narrow view of the sources' responsibilities to assure that potable water supply sources are adequately protected. Please see the response to comment 31-05.

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34-06	<p>The data presented by EPA in Appendix B of the TMDL document indicates that the maximum nitrate-nitrogen concentration observed at the mouth of the Wissahickon Creek between the years 1990 and 2001 was 7.89 mg/l. A sample collected by PADEP on August 15, 2002, when the average daily flow was 16.0 cfs (less than 7Q10) produced a nitratennitrogen concentration of 5.57 mg/1. The Philadelphia Water Department has indicated maximum reported nitrate-nitrogen concentrations at the Queen Lane intake of 6 mg/1. These facts are presented to contradict the hyperbole that the WWTPs on the Wissahickon Creek pose a threat to the water supply of Philadelphia. Considering all of the statements listed above, no nitrite-nitrate NPDES effluent TMDL should be proposed for any wastewater treatment plant as part of the Wissahickon Creek TMDL.</p>	<p>The commenter is directed to comment numbers 31-06 and 31-07.</p>
34-07	<p>The extremely limited EPA comment period is unrealistic, and grossly unfair to the dischargers, is not consistent with EPA's own protocol, and does not allow for sound science to be used. This comment is the same comment submitted for the February 2003 draft TMDL. Of course, we recognize and appreciate the fact that EPA issued a revised TMDL on June 9, 2003. We are including it with our comments because it speaks to the issue of the time lost in the TMDL process in the February to April 2003 time frame.</p>	<p>The response to this comment can be found in the response to comment for the February 2003 draft.</p>
34-08	<p>As requested by EPA we submitted comments by the first imposed, extended deadline of March 28, 2003 (re-submitted with our April 11, 2003 comments). The March 28 comments were based on what we had available to us at that time, and reflect what we were able to do in the inadequate comment period provided by EPA. EPA did not respond to any of the comments submitted on March 28, nor provide any new information.</p>	<p>EPA responded to all comments received during each of the extensive comment periods. Please see the previous response to comments.</p>

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34-09	We strenuously object to the way the EPA handled the first draft TMDL comment period in terms of the time available and the information provided. Extensions were provided piecemeal, in one case the day before the previous deadline. In addition, we received information piecemeal instead of having everything provided at the outset of the comment period as originally requested in our February 14, 2003 letter.	EPA made every effort to assure that the public was provided sufficient time to review and comment. For several years, PADEP and EPA held stakeholder meetings to discuss the procedures to be used in the TMDL development, the data available and needs, modeling basics, modeling results and the allocation process. EPA and PADEP provided the stakeholders the opportunity to participate in the stream data collection process in 2002. The stakeholders were well aware of the modeling foundation to be used for more than a year before the TMDL was completed. The stakeholders were given the opportunity to review and comment on the data review report. The stakeholders were given the opportunity to review and comment on the sampling quality assurance process. The stakeholders knew the data that was available for modeling much before the comment period. EPA made every effort to provide the technical information to those who were interested in detailed review of the model. EPA established a specific web site to provide the data and model code. EPA arranged and held conference calls with the stakeholders during the comment period to respond directly to any technical issues or questions the stakeholders may have. These calls were scheduled around the limited schedule of the stakeholders' technical expert who had few hours available for such calls due to his teaching and other obligations. Aware that the stakeholders needed a few extra days to review the material, EPA entered into extensive negotiations with the Plaintiffs of the TMDL lawsuit to obtain additional time to complete this TMDL. This resulted in an extra 6 months to complete the TMDL, resulting in an extra amount of time for the stakeholders to review and comment. EPA held multiple public meetings as well as a technical meeting to discuss the technical aspects of the TMDL. EPA held several individual meetings with point source stakeholders to discuss the TMDL. EPA invited the stakeholders to visit our contractor's office to gain more insight into the model - they declined. Please see the TMDL report for more information on the public process used in the development of this TMDL. Based on the extensive opportunities that were provided to the stakeholders EPA does not agree with the claim by the stakeholders that insufficient time was offered to them.

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34-10	<p>The documents posted on the EPA website the afternoon of June 9, 2003, are significantly and substantially different than the documents previously issued by EPA. Issuing a highly technical 191 page Model Report concurrently with a 166-page TMDL document places the stakeholders at a substantial disadvantage during a 30-day public comment period. Although the dischargers appreciate EPA's incorporation of many of our comments in the revised documents, simply too much material has been distributed for a thorough review to be completed in 30 days. Therefore, the dischargers may raise technical issues in the future after subsequent review of the TMDL documents.</p>	<p>See the response to Letter # 31-03.</p>
34-11	<p>During low flow periods, as acknowledged by EPA, the flow from Upper Gwynedd represents virtually all of the flow in the Wissahickon Creek. Without this flow, the Wissahickon Creek would not be viable. Much of the premise of the draft TMDL is that low dissolved oxygen (DO) levels contribute to impairment of the Wissahickon Creek. The facts show that the DO downstream of Upper Gwynedd's outfall is higher than upstream. The Upper Gwynedd WWTP discharge has a positive effect on the Wissahickon Creek. Without the Upper Gwynedd effluent, the Creek would be considerably more impaired.</p>	<p>This is an interesting approach to the water quality problem. Although the dissolved oxygen may be higher below the point source, so too is the concentration for the pollutants discharged by the point sources that impact the level of dissolved oxygen further downstream, such as CBOD, NH₃, NO₂-NO₃ and phosphorus. Because the effluent is the stream, essentially, the discharge must be 'self-sustaining'. That is the discharge of these other pollutants must assure that the dissolved oxygen is maintained at the standards level. This is the responsibility of the point sources. The statement that the stream would be considerably more impaired without the point sources is preposterous and without merit.</p>
34-12	<p>The DO standards for the period February 15 to July 31 and August 1 to February 14 are a minimum of 5 mg/l and 4 mg/l of DO, respectively. The data presented by EPA show that there is only 1 data point, downstream of the Upper Gwynedd WWTP before another point source discharge, which shows the DO below the 5 mg/l standard. These data were collected immediately before the July 31 date when the limits go down to 4 mg/l. The only DO measurement in the Wissahickon Creek which did not meet the standard is 4.63 mg/l. Considering that only 1 DO measurement was marginally below the minimum standard, basing any TMDL on such limited data is scientifically unsound, unrealistic, and not reflective of real world conditions.</p>	<p>EPA believes that this comment may be based on a misunderstanding of the water quality standards. The commenter indicates that a minimum dissolved oxygen standard of 4 mg/L applies during the period August through February. This is not the case nor is it the standard on which the TMDL was based. The commenter must also realize that the TMDL was based on, not specifically existing conditions, but on design conditions, which represent higher effluent flows and hence loadings of pollutants. The existing stream concentrations may not represent those design conditions. As noted in the response to several comments, EPA believes that this TMDL is based on sound science, is realistic to design conditions and reflects the actions and reactions within the Wissahickon Creek and its tributaries.</p>

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34-13	Reference is made to section 5.1 where the EPA discusses how best management practices (BMPs) can be used to improve water quality. Until enough scientifically valid data are generated to determine what needs to be done, the use of BMPs is a viable option that should be considered before imposing unnecessary TMDL	See the response to Letter # 31-12.
34-14	The second and third paragraphs of Section 5.1 of the Draft TMDL discuss that poor biological conditions are controlled by extremely shallow conditions in the stream and lack of sufficient shading. BMPs should be considered to reduce biological activity, which causes diurnal variability of DO. EPA should apply this approach to all the areas of the Wissahickon Creek where low diurnal AM DO values were observed before EPA issues any numerical TMDLs that would be incorporated into NPDES permits.	See the response to Letter # 31-13.
34-15	EPA has assumed that all dischargers would discharge at design flows at the same time, which is highly improbable. We submit that EPA has the leeway to consider this factor to use realistic conditions.	See the response to Letter # 31-17.
34-16	The Wissahickon Creek does support the maintenance of stocked trout. The Pennsylvania Fish and Boat Commission lists the Wissahickon Creek as an "Approved Trout Stream". Since the Trout Stocked Fishery criteria acknowledges a seasonal variation, some degree of common sense must be applied to listing a water as impaired during extremely low flow conditions in areas where trout are not stocked. Obtaining a few isolated DO measurements between 4.0 mg/l and 5.0 mg/l in pre-dawn hours in the latter half of July when the Wissahickon Creek is in the 0 to 10 percentile of flow (less than 7Q2) can hardly be considered a credible justification for expending millions of dollars in construction costs. Water with adequate dissolved oxygen for trout is available in the lower portions of the Wissahickon Creek during drought conditions. Therefore, the Wissahickon continues to "maintain stocked trout" through the end of July 31, even during drought conditions.	See the response to Letter # 31-09, 31-10 and 31-11.

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34-17	The Wissahickon Creek meets warm water fishes (WWF) during critical low flow periods. The data collected by the Pennsylvania Department of Environmental Protection (PADEP) in the summers of 1998, 1999 and 2002 verifies that the Wissahickon Creek, downstream of the Upper Gwynedd Township Wastewater Treatment Plant (WWTP), consistently meets the criteria for Warm Water Fishes (WWF) listed in 25 PA Code § 93 during low-flow conditions. In particular, the dissolved oxygen measurements collected by PADEP did not indicate any violations of the WWF criteria, regardless of the time of day the measurement was taken. The presence of adequate dissolved oxygen (above 4 mg/l) contradicts the assertion by PADEP that WWTP effluent is inhibiting the benthic macroinvertebrate community.	See the response to Letter # 34-12.
34-18	Established Pennsylvania Fish and Boat Commission criteria for new trout stocking areas disqualify the upper half of the Wissahickon Watershed from ever being stocked with trout. No reach of the Wissahickon Creek in the vicinity of Upper Gwynedd Township would meet the availability and access requirements necessary to allow public trout fishing.	Federal law and regulations require that TMDLs be designed to attain and maintain applicable water quality standards - numeric, narrative, uses and anti-degradation. In the case of the Wissahickon Creek, those standards include trout stocking for the entire watershed. If there are concerns about existing standards the commenter should address those concerns to the state.
34-19	The trout stocked fishery criteria are being improperly applied. Upstream of Route 73, the designation of "maintenance of stocked trout" is an unattainable designated use during drought conditions in the Wissahickon Creek. The criteria for warm water fish can be maintained during drought conditions. The municipal dischargers object to the misapplication of the trout-stocking criteria in drought conditions. Regardless of the effluent quality from any wastewater treatment plant, the upper portion of the Wissahickon Creek will not support trout at the low flow periods for which the TMDL has been prepared. If EPA persists in applying the Trout Stocked Fishery criteria during critical low flow conditions, a Use Attainability Analysis (UAA) may be required to support the stream designation.	See response to Letter # 31-10.

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34-20	<p>We disagree with the whole premise for the TMDL. We hereby request copies of all references and related documentation regarding the relationship of the benthic community to the Draft TMDL. The draft TMDL presently issued by EPA does not present any correlation between the observed benthic community and the effluent from the wastewater treatment plants. Nor do the data collected by PADEP indicate that the Upper Gwynedd discharge has the reasonable potential to negatively impact the benthic community. The proposed adjustments to the NPDES permits may cause an increase in the DO in the Creek, but since the minimum DO is already above 4.0 mg/l, EPA cannot reasonably assure that the benthic community will improve.</p>	<p>Following completion of the TMDL, the commenter may request a review of the administrative record for the TMDL. It is suggested that that request be directed to the EPA Region III TMDL Program Manager who will arrange for the commenter to visit the Regional office to review the record. The commenter fails to realize that the benthic community is also impacted by the excessive sediment in the Wissahickon Creek. This excessive sediment is the direct result of storm water flow (volume and velocity) entering the stream from excessive runoff from increased impervious areas due to land use changes. Storm water sources such as MS4 areas (municipal separate storm sewer systems) must control these increases in volume and velocity in order to help reduce stream bank erosion and excessive sediment deposition. As the commenter is aware excessive sediment in a water body will have a significant negative impact on the stream's benthic community. EPA firmly believes that the combination of nutrient control and sediment reduction through better management of storm water flow will assure that the Wissahickon Creek and its tributaries will provide a much improvement environment for both fishes and the benthic community.</p>
34-21	<p>PADEP sampling procedures may have violated critical EPA protocols. Analyses of the benthic community and DO measurements intended to demonstrate nonattainment of water quality criteria should be conducted over a 100 meter reach of stream to eliminate the possibility that the observed "deficient" area was not simply an anomaly, or due to non-representative sampling. The EPA guidance for benthic macroinvertebrate sampling (Rapid Bioassessment Protocols for Use in Streams and Wadeable Rivers, Second Edition) also requires analyses to be performed at least 100 meters upstream of any bridge. The proximity of bridges to sampling locations may invalidate the results obtained at those locations. Similarly, PADEP's dissolved oxygen measurements appear to have been collected in one isolated location, thereby not providing a representative analysis of the overall aquatic environment.</p>	<p>See the response to Letter # 31-16.</p>
34-22	<p>Basis for 303(d) listing decision was not provided with draft TMDL. The Wissahickon Creek was placed on the 303(d) list based upon aquatic biology investigations performed in the mid-1990s. The benthic community was reported as poor to fair, but was reported as having improved from previous studies.</p>	<p>See the response to Letter # 21-14.</p>

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34-23	As requested in our February 14, 2003 letter, and again in our comments submitted April 11, 2003, we hereby request copies of all references and related documentation utilized in preparing this TMDL, including, but not limited to, all the materials referenced in Section 1.0 of the Draft TMDL, all the documents listed in Section 7.0 of the Draft TMDL, and the actual justification documents prepared for placing the Wissahickon Creek and associated tributaries on the 303d list.	See the response to Letter # 31-02.
34-24	The specific WLAs presently proposed by EPA will cause considerable increases in electricity consumption, the transportation, unloading and handling of chemicals, and substantial increases in solids production (whether chemical or biological) at most of the wastewater treatment plants discharging into the Wissahickon Creek. The sole purpose of increasing the DO in the Wissahickon Creek is to support trout that are not stocked in the upstream portions of the Creek and which could not survive in the upstream portions of the Creek during low flow conditions (regardless of DO). The Draft TMDL presently proposed by EPA will have the net effect of damaging the environment.	See the response to Letter #t 31-19.
34-25	EPA has indicated that the intended analytical parameter for ortho-phosphate will be orthoP04-P. All references in the TMDL documents should be revised accordingly.	See the response to Letter # 31-04.
35-01	We find that the referenced document is seriously flawed and should be withdrawn pending completion of a scientifically defensible TMDL and amendment of the water quality criteria to reflect current science and the actual time frames necessary to protect the existing and designated uses.	EPA disagrees. The TMDL is based on scientifically valid data and procedures. As required by federal regulation, the TMDL was based on existing water quality standards. There has been no indication by the authority establishing the standards that modifications to those standards are necessary or warranted. The TMDL stands as is and will not be withdrawn or delayed.
35-02	The Township of Abington and Ambler Borough submitted comments on the January 2003 Draft TMDL which were evaluated by EPA. EPA responded to these comments in the Wissahickon Responsiveness Summary for March 2003 Draft. In most cases, EPA's response did not address the specific question. Therefore, these comments are incorporated by reference.	EPA believes that all comments were adequately addressed in the March 2003 responsiveness summary. That summary is included as part of this TMDL.

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35-03	<p>We commented that the TMDL only specifies allowable loads and achievement of those loads ensures water quality standard compliance. As such, the TMDL should not specify WLAs as concentration limits in NPDES permits (Ltr# 715-23). EPA responded saying "Both loads and concentrations were provided. If a facility wishes to adjust allowable flows from a facility downwards, the concentrations may be adjusted". This response is misplaced. The TMDL yields a load. Compliance with the load ensures compliance with the TMDL. Current concentration limits may be retained in a NPDES permit provided that the load is not exceeded.</p>	<p>EPA 's response remains as previous. In situations where the effluent flow is essentially the stream flow, the effluent concentration becomes most important. That is, the effluent concentration is the concentration in the stream and as such is an important consideration in any low flow TMDL. As we have shown in the Appendix D discussion, at lower effluent flows during the 7Q10 low flow, the required effluent concentration is much lower than for the higher permit design flow. We maintain that for situations where effluent flow is the stream flow, concentration considerations are important. The permitting authority, when writing the NPDES permit, should take into consideration the relationship described in Appendix D. i.e., at lower effluent flows, effluent concentrations may need to be lower due to impacts in stream depth, etc. In other words, adjusting the effluent concentration for a lower effluent flow condition may not be beneficial to the point sources as we suspect the commenter may believe.</p>
35-04	<p>We commented that the model was not scientifically justifiable because all critical parameters (e.g., re-aeration, oxidation, SOD, algae/periphyton growth, nitrification) were calibrated with a single set of data (Ltr# 715-01, 12). EPA responded saying it used sound science and EPA Guidance directs it to "not delay the development of TMDLs". The specific point made was that the model includes many unknowns, but only one set of data. It is a well known fact that two unknowns require two equations (e.g., data) to be solved. This model was prepared by changing critical parameters in a step-wise fashion to match the observed DO data without any verification for the values selected (except that the selected values fall within the accepted range). There is no credibility in this approach. At least one set of verification data is necessary to demonstrate that the model calculations are credible. In fact, the final re-aeration rate equation falls well below the accepted range generated by Owens.</p>	<p>In response to comments, model verification and validation results are presented in the final Nutrient Modeling Report.</p>

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35-05	<p>We commented that EPA has made no demonstration that the multiple conservative assumptions used in the TMDL are needed to achieve 99 percent compliance and the MOS used in the model is unreasonable (Ltr# 715-13). EPA responded saying the TMDL is required to consider critical conditions (Q7_10 flow, design plant flow for steady state modeling) regardless of the method of applying MOS. Furthermore, if an implicit MOS is not used, an explicit MOS of 10 % must be assumed. We believe this response is misplaced and, in any event, misses the point. PADEP requires 99 percent compliance to achieve water quality standards. This compliance point is not in addition to the Q7_10 and the design flow rate. In fact, PADEP typically calculates individual NPDES limits using only the Q7_10 and design flow, thus this response is not correct. However, not only does the TMDL use these critical flows, it also sets each discharger at its permit limits for each parameter. In a multiple-discharger system such as the Wissahickon Creek, such an assumption is extremely conservative.</p>	<p>PADEP does typically use the 7Q10 flow and effluent design flow to calculate individual NPDES limits. In fact, a review of the latest fact sheet and calculations for the Upper Gwynedd facility shows that PADEP also uses the 7Q10 and effluent design flows for multiple discharges as well. In fact the modeling guidance for the WQAM model used by PADEP for multiple discharge scenarios suggests the use of effluent design flows for the point sources as does several other PADEP guidance. This procedure is common practice for PADEP for multiple discharge situations. The TMDL is being developed to assure standards are attained and maintained into the future with the ultimate future being design build-out of the point sources, the critical condition. Please also see the discussion in Appendix D of the TMDL report for a further discussion on the impacts and consideration of using various and what the commenter would describe as less conservative assumptions.</p>
35-06	<p>We commented that EPA assumed that the water quality reflective of the reference site is necessary to ensure use protection from siltation. This assumption is not supported by any evidence in the record. (Ltr# 715-27). EPA responded saying that the reference watershed approach is commonly used and it was not necessary to prove that the reference stream was unimpaired. The point we were attempting to make was that the siltation load experienced by the reference watershed does not represent the maximum allowable load above which the watershed would be impaired (e.g., one additional pound would result in noncompliance). Without some demonstration that additional loading is unacceptable, the reference watershed approach is arbitrary and should not be used develop a TMDL without additional supporting documentation.</p>	<p>The reference watershed approach provides an estimate of the TMDL for the impaired watershed, but certainly is not assumed to be exact. As the reference watershed may understate the maximum load possible, there is also the potential for overstatement. To provide additional assurance that the approach is protective of the stream, an explicit margin of safety was also used. Pennsylvania does not currently have numeric criteria for siltation. In the absence of such criteria, the reference watershed approach has been accepted by both EPA and PA DEP as a reasonable and scientific method for assessment of siltation TMDLs.</p>

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35-07	The combination of stream dilution flow and point source permitted flow used in the model cannot occur simultaneously; therefore the model evaluates fictitious conditions not representative of the situation of concern.	Although it is not entirely clear what specific point the commenter is attempting to make here, we interpret this comment to imply that effluent flows at low flow stream conditions will always be less than the effluent design flow due to less infiltration, etc into the collection system. Hence the use of a effluent design flow is not appropriate to use during dry weather TMDL development. EPA has addressed this concern in Appendix D of the TMDL report. Note that because the effluent flow is essentially the stream flow under any low flow condition, it has been shown that using a lower effluent flow at low flow stream conditions will result in a lower effluent concentration due to impacts on stream depth, etc., i.e., it is not to the dischargers benefit to use an effluent flow other than that flow recommended in PADEP guidance for establishing the low flow TMDL. Please see Appendix D for more information.
35-08	Separate seasonal stream dilution flows should have been determined to evaluate TMDL requirements for the trout-stocking season and the warm-water designations. Figure 1 presents an illustration demonstrating that the Q7_10 flows for the trout-stocking period (February 15 - July 31) exceed those flows for the warm-water designation (August 1 - February 14). The EPA TSD and PADEP allow for consideration of different seasonal flows.	The Commenter is referred to Appendix D of the TMDL report for a discussion on this issue.
35-09	The January 2003 model set fixed re-aeration rates for all 115 segments representing Wissahickon Creek. We commented that this approach is contrary to standard engineering practice and EPA's own water quality modeling guidance, which is to calculate the re-aeration rate based on channel geometry and hydrology using a validated equation. In response, the June 2003 Model employed a "user-defined" re-aeration equation. The Model report noted that the use of validated empirical equations such as Owens yielded very high DO concentrations and "Matching the observed data would have required unreasonably high SOD values". This approach is unacceptable because this user-defined equation has not been validated by comparison with alternate sets of data. Consequently, it is an untested guess that would not stand up to peer-review. This is not good science. The fact that use of a validated and peer-accepted re-aeration equation such as Owens results in high DO predictions suggests that other aspects of the calibration are out of balance.	The original methodology for assignment of re-aeration rates was sufficient for TMDL analysis, but to accommodate concerns of stakeholders, the methodology was refined with the user-defined re-aeration equation. The user-defined re-aeration equation was based on the O'Connor-Dobbins formula, with coefficients adjusted during model calibration. Model validation results have been provided in the final TMDL report. Model results showed consistency in the model's predictive capability. Therefore, the performance of the user-defined re-aeration equation has been tested and proven effective in predicting system response. To respond to the commentor's concern regarding the adequacy of the re-aeration equation, re-assignment of fixed re-aeration rates was considered. However, following successful validation to an independent dataset, the re-aeration equation was determined adequate.

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35-10	This model should be subject to independent peer review before it is used to establish a TMDL for the Wissahickon.	Please see the nutrient model technical report for a discussion on model verification. Note that we are using the recognized terminology here concerning model verification. This refers to the verification of the model and its algorithms, etc as opposed to the often misused definition of verifying the model using an independent set of stream data.
35-11	The model assumes that the SOD in the creek is linearly responsive to organic and nutrient loads from the point source dischargers. If this is the case, the SOD should be set using the seasonal or annual average facility performance rather than the design condition that occurs less than one percent of the time. Since all the major dischargers produce a highly polished effluent, we would expect that the sediment demand downstream from an outfall would reflect this condition. In addition, independent tests should be conducted to validate the rates used in the model since these appear to be critical for proper calibration.	The rationale of using the design flows as the baseline critical condition was to ensure conservativeness in estimating the potential impact of the dischargers on water quality. The modeling study considered the properties of the effluent water quality through maintaining a cap for the maximum SOD downstream of the dischargers (Section 4.2, Nutrient Modeling Report). The model has been validated using the 1998 NIER survey data, and results showed that the model reproduced the general water quality distribution in 1998 reasonably well. Thus far, the model has been calibrated and validated using the best available data. Of course, more data would undoubtedly provide better understanding of the SOD in the watershed, but in the absence of such data, EPA is confident with the assumptions that were tested through model calibration and validation. Opportunity was provided to stakeholders prior to the summer 2002 sampling period for collection of SOD data (data gap presented to stakeholders in a public meeting held on April 4, 2002, and identified by EPA in a letter provided to stakeholders on April 18, 2002), but stakeholders expressed no interest in collecting such information or made no recommendations to EPA that this was a data gap that deserved prioritization.

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35-12	<p>The revised model compared its periphyton simulation with data collected by PADEP in 1998 "to check the capability of the model in simulating the general trend of periphyton". The report goes on to state that the model predicts periphyton as mass of carbon while the PADEP data are reported as chlorophyll-a, consequently a conversion was required to compare the model with the data. Figure J-13 illustrates the model calibration with periphyton in Wissahickon Creek. No data are presented for any other tributary, in particular for Sandy Run. Thus, there is no way of evaluating whether the model reasonably predicts conditions in Sandy Run. The model over predicts periphyton Chlorophyll-a in Wissahickon Creek in the vicinity of Sandy Run and further upstream.</p> <p>The draft TMDL for the Township of Abington is based entirely on the periphyton predictions in Sandy Run. The model is not calibrated for this parameter in Sandy Run and is poorly calibrated in Wissahickon Creek in the vicinity of Ambler Borough. Given this lack of adequate calibration for this critical parameter, EPA should withdraw the TMDL and recalibrate the model with actual data on periphyton biomass consistent with the calibration period.</p>	<p>As shown in Figure J-13, simulated periphyton results were compared with observed data on Sandy Run (segment 94), with results showing consistency. It should be noted that no mathematical model is developed to mimic all details of a real system (which is virtually impossible). Considering all limitations of mathematical formulations, numerical solutions, and data sparseness against system complexity, a model can only be expected to represent the general behavior of the prototype system. Although periphyton data were collected in 1998, the relative distribution of the biomass was considered a useful measure of the model's ability to simulate the general trend throughout the system. Bearing this in mind, it is clear from Figure J-13 that the model has achieved a reasonable representation of the system; wherever the observed periphyton biomass is high, the model result is also high, and visa versa. Another indication of the success of the model in simulating the periphyton along Sandy Run (as well as Wissahickon Creek and Pine Run) is the good reproduction of the DO diurnal fluctuation resulting from biological processes associated with periphyton biomass (Figures J-4, J-8, J-12).</p>

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35-13	<p>The model calibration for Sandy Run (see Figure J-8 of Appendix J) indicates that the dissolved oxygen concentration throughout Sandy Run is almost constant, with an average DO of about 7.0 mg/l. Without any DO sag, the model cannot be calibrated for this tributary. EPA cannot calibrate carbonaceous or nitrogenous oxidation because the CBODu and ammonia loads are very low and the travel time through the tributary is short. The calibration data are too sparse to make a valid calibration under the observed conditions, and without a DO-sag the kinetics cannot be verified. The data for ammonia-nitrogen, nitrate/nitrite-nitrogen, and orthophosphorus cannot be used to calibrate the model because these profiles are also flat. No explanation is provided for the sudden jump in concentration for these parameters approximately 3,000 meters from the mouth of Sandy Run. Given the flat profile of dissolved oxygen in Sandy Run, the model can only be used to evaluate diurnal variation. No periphyton data are presented for Sandy Run. The modifications made between January and June 2003 can only be characterized as guess-work with regard to periphyton because the calibration run cannot be compared with any appropriate measures.</p>	<p>The flat DO profile predicted by the model for Sandy Run was the result of two factors: (1) the waste load from Abington during the calibration period was relatively low, thus resulting in an insignificant DO sag downstream of the discharge; (2) the periphyton activities cause the DO to fluctuate within a day, and since the simulated daily average DO was calculated through averaging the DO at each time step over the 24-hour period, this further impacted the insignificant DO sag. As shown in Figure J-8, the model can be considered reasonably calibrated because, in general, the model simulated DO within the range shown by the observed data. In addition, the model has been validated using 1998 data (Figure L-8 of the final Nutrient Modeling Report) and showed reasonable representation of the DO profile. Based on both the calibration and validation to observed DO data, the model was determined a sufficient representation of the real system. Similarly, the model showed reasonable representation of the general magnitude of NH3-N, NO2-NO3-N, and ortho PO4-P. Disparity between model results and observed data are primarily due to the fact that the model was configured using the average discharger flows and load conditions while the data were collected on specific dates with variable discharger flows and associated loads. The sudden jump in concentrations mentioned by the commentor on Sandy Run are due to the contributions from Pine Run at the confluence with Sandy Run.</p>
35-14	<p>The Pennsylvania Strategy for seasonal limits is not legally binding and, in any event, should not have been used by EPA to establish seasonal limits. The report should have described the basis for establishing each seasonal period, rather than simply referring to a strategy document, so that the applicability of these periods could be carefully evaluated.</p>	<p>EPA has followed PADEP guidelines for establishing seasonal limits. The commenter does not provide any reasonable basis for this statement. If the commenter wishes to understand PADEP's reasoning for the strategy used by the state to establish their own NPDES effluent limits, then the commenter should refer to the state's document and explanation. EPA does not believe that further explanation of a state's established procedures is required here.</p>
35-15	<p>We agree that the TMDL should establish less restrictive limitations within each of the designated use periods. However, the periods identified above and the specified mass limits should be modified to account for expected flow conditions and temperature within each seasonal period. Specific seasonal flows will exceed the Q7_10 used in the TMDL. Separate seasonal low flows should be applied for each seasonal period. Given the significant increase in DO saturation at reduced temperature, the less restrictive trout-stocking period should extend to May 31 for all parameters, and the less restrictive warm water fisheries period should begin on September 1.</p>	<p>EPA addressed these concerns in Appendix D of the TMDL report. The commenter is referred to that document for a discussion.</p>

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35-16	Given the significant increase in DO saturation at reduced temperature, the less restrictive trout-stocking period should extend to May 31 for all parameters, and the less restrictive warm water fisheries period should begin on September 1.	The TMDL development process and the water quality standards modification process are separate and distinct processes. The federal regulations require that TMDLs be established to attain and maintain existing water quality standards. If the commenter wishes to discuss the applicability of the existing standard then that discussion should be held with the state under the proper program methods and procedures. The TMDL will not address standards changes.
35-17	EPA's June 2003 TMDL approach is contrary to accepted engineering practice and EPA's own modeling guidance, which requires validation of models. Thus, this model and the TMDL violates the Data Quality Act and its implementing regulations as there is no indication as to the reliability of this model and it is inconsistent with published guidance.	The commenter does not provide any documentation supporting the concerns raised. The commenter indicates that the model is inconsistent with published guidance - no further explanation is provided as to why the commenter believes this to be the case. Without further explanation EPA cannot respond directly to this "observation" by the commenter. However, we have failed to find any EPA document that "requires" validation of models. Note that the EPA document "Technical Guidance Manual for Developing Total Maximum Daily Loads, Book 2: Streams and Rivers, Part 1: Biochemical Oxygen Demand/Dissolved Oxygen and Nutrients/Eutrophication", March 1997, discusses the calibration and validation processes, but does not "require" them. In addition, the guidance discusses validating a model by model coefficient adjustment and model sensitivity analysis and model accuracy, all of which have been completed for the Wissahickon model. There is a substantial amount of information that speaks to the validity and reliability of the Wissahickon model - the commenter is referred to the TMDL report and the technical model report pertaining to the calibration, validation and verification process
35-18	Finally, the "piling on" of multiple conservative assumptions under the rubric of a "Margin of Safety", without demonstrating such margin is reasonable or appropriate or necessary to implement state water quality standards, renders this entire analysis arbitrary and capricious.	EPA believes that again the commenter is providing commentary without supporting information. EPA is unclear as to what the commenter has in mind when referring to "piling on of multiple conservative assumptions". Without a listing of those conservative assumptions commenters believes EPA is "piling on", we cannot adequately respond to this comment. Nor has commenter provided us with sufficient information to evaluate the concern the commenter apparently has with providing a margin of safety in this model.
35-19	A TMDL is only set as necessary to meet water quality standards. The TMDL prepared for Wissahickon Creek is not necessary under non-drought conditions or during periods of lower temperature conditions. EPA, however, applies the TMDL requirements even at higher flows and lower temperatures. This expanded application of the TMDL is arbitrary and capricious and not authorized by federal law. If a TMDL is required for DO objectives, it should only apply for the month of July when stream flows are at or near 7Q10 conditions.	Applying a TMDL for only one month would in no way adequately protect the environment or as providing a reasonable design basis for treatment facilities. A 7Q10 low flow can and does occur at times other than just July and in fact can occur throughout the late spring and summer months. Higher temperatures and other environmental factors that negatively impact in stream quality also occur throughout this period. EPA believes this comment to be without merit. Federal law and regulations require that the TMDL be designed to consider seasonal variations as well as critical environmental conditions. This TMDL does exactly that. Again commenter provides personal opinions without the benefit of supporting information and data.

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35-20	<p>TMDLs may only specify allowable loads and achievement of those loads ensures water quality standards compliance. There is no demonstration that concentration-based limits are necessary to ensure standards compliance even when the TMDL mass limits are met. While NPDES permits may include limitations for both concentration and mass, this does not mean that concentration-based limits are demonstrated to be necessary for this TMDL.</p> <p>The TMDL Report should state that NPDES permits for the affected facilities cannot exceed the mass values presented in the TMDL. Concentration limits can, however, be based on the flow expected under drought conditions and should not be based on the design flow.</p>	<p>EPA refers the commenter to Appendix D of the TMDL report for a discussion on the use of effluent flow expected under drought conditions. There is also a discussion as to why for this effluent dominated condition, effluent concentrations are of particular importance.</p>
35-21	<p>Federal regulations require states to have an implementation procedure that will be used in the application of narrative water quality criteria (40 CFR § 13.11). This procedure provides the public with an objective means to determine how a rule will be interpreted and whether or not the actions in question actually violate state law. DEP has not developed such implementation procedures for siltation. Thus, there is no basis for knowing what the proper water quality objective needs to be or whether or not the current condition actually violates state standards. Proof must be independently presented in the administrative record demonstrating that a violation exists and demonstrating the level of water quality necessary to prevent the violation.</p>	<p>Federal regulation at 40 CFR Part 131 is the water quality standards regulation. This regulation describes the requirements and procedures for a State to utilize when developing its water quality standards. The Federal regulation requires that a State adopt designated uses, those uses for each water body or segment whether or not they are being attained, and criteria, that when met, will generally protect those uses. Criteria may be expressed as constituent concentrations, levels, or narrative statements. While 40 CFR § 131.11(b)(2) does allow a state to establish criteria in the form of a narrative statement, it does not require that implementation procedures be developed, although a State, at its discretion, may do so.</p> <p>Federal regulation at 40 CFR 131.11(a)(2) does require that where a State adopts narrative criteria for toxic pollutants, the State must identify implementation procedures. However, siltation is not listed as a toxic pollutant under Section 307(a)(1) of the Clean Water Act or 40 CFR § 401.15.</p>
35-22	<p>EPA has assumed that the water quality reflective of the reference site is necessary to ensure use protection from siltation. This is an assumption not supported by any evidence in the record. The fact that water quality is better elsewhere is not proof of the level of water quality necessary to protect beneficial uses. It is equally plausible that the level of siltation may be much greater than contained in the reference site without significantly impairing beneficial uses. Without such a demonstration (reference site water quality is necessary to protect uses) selection of this as the proper implementation of the narrative standards is arbitrary and capricious.</p>	<p>Pennsylvania listed sections of the Wissahickon Creek watershed on its 1996, 1998, and 2002 Section 303(d) List as being impacted by siltation from urban runoff and storm sewers. Justification for these listing decisions can be found within these lists which were approved by EPA. This information would be available from the state. See Response to comment for 35-06</p>

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35-23	<p>The reference stream is declared to be similar to Wissahickon Creek. This claim is not supported by substantial evidence. The critical factors to demonstrate similarity include the prevalence of biota in the stream in question and other essential characteristics that affect siltation (e.g., erodible soils but lack of "flashiness"). These parameters, which governed the claimed need for TMDL development, were not examined. Thus the presence of improved biota in the reference stream, if such is the case, is not directly attributable to a lack of siltation.</p>	<p>Selection of a reference watershed with similar characteristics as Wissahickon Creek proved to be a challenge. Not surprisingly, most watersheds with similar land use distribution, soils, geology, and other features would suffer from similar problems regarding siltation, especially with the same level of urbanization. However, other than the size and slope of the watershed, a good match was believed to be found in Ironworks Creek. In response to comments, the methodology for estimation of streambank erosion was revised and reported in the Siltation Modeling Report released with the final TMDL report. The revised methodology considered site-specific variance of such factors as bank stability and vegetation cover conditions. This information was obtained from field surveys performed by PA DEP in 1998, which reported a number of additional qualitative information that substantiated the similarities between the habitat of the Wissahickon Creek and Ironworks Creek. Finally, the new methodology based allocations on a unit-area load for each model subwatershed to provide better comparison between the different size watersheds and associated difference in flow magnitude and stream geometry.</p>
35-24	<p>The Wissahickon Creek watershed is approximately four times larger than the reference watershed. Consequently, flows in Wissahickon Creek will be much greater, even if all other factors are identical, therefore the potential for stream bank erosion and sedimentation are significantly greater. The difference in watershed slope is also significant, with the Ironworks Creek watershed slope more than double that for Wissahickon Creek. The steeper slope may indicate that the stream bed tends to be rockier; therefore there is less likelihood for stream bank erosion. Furthermore, the steeper slope will convey more water with less depth, thus tending to remain within the stream bank during storm events. This condition also lessens the likelihood for stream bank erosion. Based on these considerations, Ironworks Creek cannot be used as a reference watershed because it will under-predict the sediment load.</p>	<p>Selection of a reference watershed with similar characteristics as Wissahickon Creek proved to be a challenge. Not surprisingly, most watersheds with similar land use distribution, soils, geology, and other features would suffer from similar problems regarding siltation, especially with the same level of urbanization. However, other than the size and slope of the watershed, a good match was believed to be found in Ironworks Creek. In response to comments, the methodology for estimation of streambank erosion was revised and reported in the Siltation Modeling Report released with the final TMDL report. The revised methodology considered site-specific variance of such factors as bank stability and vegetation cover conditions. This information was obtained from field surveys performed by PA DEP in 1998, which reported a number of additional qualitative information that substantiated the similarities between the habitat of the Wissahickon Creek and Ironworks Creek. Finally, the new methodology based allocations on a unit-area load for each model subwatershed to provide better comparison between the different size watersheds and associated difference in flow magnitude and stream geometry.</p>

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35-25	TMDL Reduction Target is Not Within the Scope of the CWA EPA has concluded that a 40 - 70% reduction in siltation is necessary. There is no indication regarding how this reduction will allow for full attainment of uses while other less restrictive reductions or measures would not. Thus, the restriction imposed was pure guesswork, an arbitrary approach to environmental regulation. Moreover, the TMDL indicated that the primary source of the stream siltation is the stream itself. Internal loadings are generated due to bank erosion, not due to outside inputs. The Act does not regulate the natural generation of pollutants by a water body.	The TMDL addresses sediment in response to Pennsylvania's Section 303(d) listing as the cause of nutrient impairment the reductions in in-stream sediment loads are modeled to identify the necessary sediment load reductions. If at any point in the implementation process, aquatic life uses are determined to be unimpaired, additional reductions or restrictive measures could be reevaluated.
35-26	In revising the January 2003 Siltation TMDL, EPA converted stream bank erosion from a load allocation to a waste load allocation. Such a modification is clearly unwarranted because stream bank erosion does not result from a point source. In fact, municipalities have no way of controlling such a source. EPA suggested at the Public Technical Issues Meeting (June 13, 2003) that the only way to control siltation was through runoff volume control. However, flow is not a pollutant that can be regulated and, moreover, downstream municipalities have no ability to control the flow issuing from upstream municipalities which may be the overriding factor affecting stream bank erosion.	The Final TMDL retains the presumption that allocations attributed to MS4 communities are designated as WLAs. Regarding the reductions required for downstream municipalities the allocations were revised for the final TMDL to better account for upstream sources.
35-27	In short, the proposed TMDL for siltation should be withdrawn and reconsidered. Unless EPA can demonstrate that biota are currently impaired and the degree of siltation causing the impairment, further action on this TMDL should not occur. Moreover, assuming impairment is demonstrated and the cause is siltation, EPA should not seek to regulate external sources of silt as such loads are largely irrelevant to the cause of the impairment. A BMP program implemented by the state to reduce stream flow velocity would be the most appropriate approach. That approach does not require the adoption of an external load restriction.	See response 35-06.
36-01	See Letter # 19.	See the response to Letter # 19.

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37-01	PWD submitted comments to the March 2003 drafts for these TMDLs. Unfortunately, the responses to those comments provided to us at the June 13, 2003 Technical Meeting and the presentations made at that meeting were less than adequate. Specifically, our objections to the methodologies used to determine the low flow budget for the nutrient TMDL and the reference watershed approach for the siltation TMDL remain virtually intact.	Although the critical flow for TMDL analysis is noted to exceed the 7Q10, this is due largely to the assumption that sewage treatment plants discharge at design flows specified in their respective NPDES permits. In fact, the sum of these effluent flows is 27.96 cfs, which exceeds the 7Q10 by 172% and conservatively considers critical conditions when the background streamflow is at 7Q10 low-flow conditions. Therefore, rather than overstating the assimilative capacity of the stream (as stated by the commenter), the assimilative capacity under such effluent-dominant conditions is actually severely limited. Such conservativeness provides assurance that wasteload allocations are protective of the stream during critical low-flow.
37-02	We are extremely concerned with the changes in the nutrient TMDL drafts concerning nitrate-nitrite nitrogen. We believe USEPA has grossly overestimated the assimilative capacity of the Wissahickon Creek and, more specifically, the Schuylkill River at the Queen Lane Water Treatment Plant intake for this parameter due to the low flow methodology applied. We are extremely concerned that not only will the proposed TMDL not provide any reductions in nitrate in our Queen Lane Treatment Plant's source water, but that actual degradation could occur in the future as a result. We remind USEPA that actual measurements taken in the Wissahickon Creek used to develop this TMDL had exceedances of the 10 mg/l national primary drinking water standard for nitrate.	Development of TMDLs under such effluent-dominant conditions provides confidence that nutrient reductions result in significant protection under the most critical conditions possible, with effluent flows at design conditions during a 7Q10 period. Should background conditions change in the future or should the drinking water standard not be attained then the TMDL would need to be revisited.
37-03	The changes in the model with regard to the impacts of a cessation of the Coorson's Quarry flow are simply baffling. It is hard to conceive that a loss of the allocation flow of 8 cfs used for the quarry in a watershed with a measured 7Q10 flow of 16.26 cfs could have no impact. Even using the questionable "critical low flow" of 42.52 cfs, it is still hard to believe the loss of close to 20% of baseflow will not impact the stream's assimilative capacity, and therefore the TMDL allocations.	The basis of nutrient TMDL development for Wissahickon Creek and tributaries was the protection of designated uses, specifically aquatic life and trout stocking. These beneficial uses have associated DO criteria that are impacted by nutrient levels in the stream. However, such problems with low DO are localized to specific segments of Wissahickon Creek and tributaries that are mostly in upper portions of the watershed. To prevent low DO in these locations, reductions in nutrient loads were determined for the TMDL. The portion of Wissahickon Creek downstream of the Coorson's Quarry discharge was not found to have problems with low DO as long as nutrient reductions from dischargers were met (as a result of prevention of low DO in other critical locations). In other words, the portion of Wissahickon Creek downstream of Coorson's Quarry was less of a problem regarding low DO than upstream segments. However, the Quarry does provide additional assimilative capacity for the watershed and therefore positively impacts the TMDL as mentioned in the report.

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37-04	We have strong objections to the liberal use of the Waste Load Allocation (WLA) component. USEPA has randomly decided to consider these instream sources as point sources in the TMDL calculation. The modeling approach used is simply not adequate for correct allocation of loads among point sources (municipalities). In fact, the City of Philadelphia in particular is inequitably penalized for simply being the last downstream municipality in the watershed by this methodology.	The commenter is referred to the TMDL report and the sediment technical report. The process for allocating sediment to MS4 areas has been modified to better consider the concerns expressed in this comment. Allocations in the final TMDL reflect a less reduction for downstream sources. Use of a waste load allocation for sediment is appropriate since the source of that excessive sediment is increased flow - both volume and velocity - from runoff of areas within MS4 areas. MS4 areas have been defined by EPA as point sources thus requiring waste load allocation.
37-05	In order for the City to support the siltation TMDL, the TMDL document needs to make clear that the siltation TMDL will be further improved and refined through the Adaptive Implementation Process. Until such time improvements and refinements are made, EPA should make clear that the only appropriate implementation strategies would involve non-structural BMPs. As more is learned through the Adaptive Implementation Process, the implementation strategies can then be adjusted accordingly.	TMDLs are dynamic. As additional data becomes available, the TMDL may be revisited. It is expected that the TMDL will be used as a goal for the requirements of PADEP for the first round of MS4 permit. Data submitted by the MS4s as part of their permitting requirements will need to be evaluated when the permits are reissued to determine if additional or different BMPs are warranted. The approach used will require adaptive management through time. Given the magnitude of the reductions required, it is likely that an iterative process will be needed over time to achieve the TMDL targets.
38-01	We are still concerned that EPA included individual wasteload allocations for MS4 municipalities in the TMDL. Pennsylvania will be required to implement the TMDL through its permit program and we are concerned that, in spite of indeterminate language in your response to this same comment on the previous draft of the TMDL, we will be responsible to impose additional monitoring on the municipalities and perhaps even to impose numerical effluent limitations in the future as a result of your TMDL. We do not believe that this potential outcome is accounted for in EPA's guidance and it could cause Pennsylvania municipalities to spend millions of dollars in public funds attempting to meet poorly documented and unjustified permit conditions and limitations.	MS4 areas have been defined by EPA as point sources and are thus requiring a waste load allocation. It is expected that the TMDL will be used as a goal for the requirements of PADEP for the first round of MS4 permits.

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38-02	EPA's TMDL for the Wissahickon Creek watershed is the first TMDL in Pennsylvania that addresses nutrient impairments through an endpoint measured by the dissolved oxygen standard. The Department is hopeful that this approach will be effective in adequately addressing the nutrient impairments. However, we believe increased documentation should be developed to add support for this approach and in its use in developing other TMDLs. We recommend you contact our Southeast Regional Office to discuss their perspectives relating to dissolved oxygen and nutrient control .	EPA is confident that the loads (and concentrations) provided by the TMDL will have a beneficial impact on the Wissahickon Creek water quality. It will also appropriately address the nutrient concerns. The commenter is referred to the TMDL report and associated appendices.
38-03	Finally, Pennsylvania does not believe that EPA adequately answered the concerns about the development of this TMDL, which we expressed during the first comment period in our comment letter dated April 10, 2003. We will not reiterate them, but we hope that EPA will give them further consideration to help refine the TMDL process.	EPA has included the response to comments for the previous draft report. If there are concerns with specific responses EPA will try to provide additional information if these specific concerns are identified.
39-01	E-mail commentor - General	See Response to Letter # 19.
40-01	Critical Conditions: We remain concerned that the calculation used in the TMDL for critical low flow is unjustified and overstates the assimilative capacity available in the Creek. Despite criticism of its failure to use the 7Q10 as critical low flow by numerous commentators, the new version of the TMDL continues to use a calculated value rather than the measured 7Q10. In fact, EPA even increased its calculated low flow value from 40.8 cfs in the January 2003 version to 42.52 cfs in the June version (compared to the measured 7Q10 of just 16.26 cfs). We continue to believe that use of this calculation is unjustified, resulting in an excessively high critical low flow that is 260% of the 7Q10.	See response to Letter # 37-01.

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40-02	<p>A related concern about flows concerns the use of design flows for the sewage treatment plants, rather than average actual discharge levels, to determine the critical low flow scenario. The sewage treatment plants are permitted to discharge in excess of 18 million gallons per day, but their actual discharges average significantly less – just 50-60% during low flow periods for the Creek.</p> <p>Using the design flows in the models rather than average discharge levels results in an over-statement of flows in the Creek. Using unrealistic design flows produces unrealistic reaeration values, which in turn, will result in projected DO levels that are unachievable under actual discharge conditions. The most critical condition for the Wissahickon is when discharge flows are at their actual summertime rates. Using design flows, rather than actual flows, to calculate the 7Q10 predicts a stream with higher assimilative and reaeration capabilities than actually exist, thus resulting in waste load allocations that are insufficient to address the existing DO problem.</p>	<p>See response to Letter # 37-01 and 19-02. Although the reaeration is a function of streamflow, the impact of reaeration does not overstate the assimilative capacity of the stream with sewage treatment plants at design flows since the stream is over 98% effluent flows at this condition. At the critical condition used for TMDL analysis, the stream is effluent-dominant, and essentially requires dischargers to provide effluent flows that support aquatic life without the benefit of dilution from natural baseflow. Using lower effluent flows reduces the proportion of streamflow from sewage treatment plants. Although it is noted that reaeration also decreases, the reduced reaeration is not as influential on TMDL results as the effluent dominant characteristic of the streamflow. Reduced effluent flows reduces reaeration, but also increases the assimilative capacity of the stream as streamflow is better able to dilute the reduced sewage treatment plant contributions.</p>
40-03	<p>EPA has chosen in the new TMDL to impose differing standards for the Trout Stocking Fisheries season (February 15 through July 31) and the remainder of the year. We are concerned that the proposed discharge concentrations in the fall and winter months (those using the Warm Water Fisheries standard) may not be sufficiently protective to return the Creek to health.</p> <p>First, we note that the fall and winter months will see little or no reduction in nutrient discharges. Given that "this TMDL did not include water quality modeling for the 'winter' period", we are concerned that the minimal reductions required may not be sufficient to ensure that the Creek meets water quality standards during this period. We strongly suggest that EPA utilize the stricter TSF –based limits throughout the year; however, if EPA intends to continue with the two standards approach, it should at minimum extend the application of the standards currently proposed for February 15 to July 31 at least through September 30.</p>	<p>EPA has used the applicable water quality standards as adopted by Pennsylvania for the Wissahickon Creek. These standards provide the periods of the year when specific numeric standards apply. EPA considered the critical conditions when establishing the TMDL. As has been confirmed in many other similar situations, the critical condition for nutrients from point sources, particularly for situations where there is little or no dilution, is the late spring and summer. Nutrient impacts are minimal during the winter months due to temperature, dilution and other considerations. EPA has recommended the use of PADEP's seasonal guidance for those times other than the critical conditions.</p>

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Letter ID	Public Comment	EPA Response
40-04	<p>We remain unconvinced that aerating the effluent of the WWTPs will have a long-lasting downstream impact on DO levels. Raising the DO in the effluent results in nutrient reductions being far less than what are necessary to curtail periphyton growth, the true contributor to the stream's low DO levels. This approach treats a symptom rather than the cause of the problems facing the Creek. As a result, we remain opposed to the suggestion to offset nutrient reductions with higher levels of DO in the effluent from the WWTPs.</p>	<p>See the discussion in Section 3.1 of the TMDL Report regarding nutrient criteria and endpoints used for nutrient TMDL development. There are currently no criteria for acceptable levels of periphyton growth. Therefore, to measure the impact on aquatic life, and to provide an endpoint for TMDL development, DO criteria were used. At effluent dominant conditions in the stream, with all plants discharging at design flows and existing permitted DO levels at 6.0 mg/L, it is impossible for the instream DO to meet the Trout Stocking minimum DO criteria (also at 6.0 mg/L) without reducing effluent concentrations to levels that would be extremely difficult to meet using current treatment technologies. Furthermore, although the sewage treatment plants are permitted at 6.0 mg/L DO, most are normally observed to discharge at above 7.0 mg/L, so instream conditions are unlikely to change significantly due to changes in permitted effluent DO. Therefore, changes in permitted effluent DO do not treat the symptom, but rather consider conditions in the stream that are realistic and most likely to be remedied as a result of the wasteload allocations prescribed. Through modeling analysis (including simulation of diurnal DO swings resulting from periphyton growth), the nutrient wasteload allocations and effluent DO were not predicted to result in violations in the DO criteria, therefore ensuring protection of Trout Stocking and Aquatic Life.</p>
40-05	<p>We are also concerned that the June 2003 draft no longer requires reductions from all five of the sewage treatment plants. The Ambler Sewage Treatment Plant, the single largest discharger of nutrients into the Creek, was in the first draft, required to reduce its discharges by 10% for ammonia, 14% for CBOD-5 and 58.3% for Ortho Phosphate (assuming effluent DO at 7.0 mg/L). But in the new draft, the Ambler plant will not be required to reduce its discharges at all, and is even allowed potentially to increase its Nitrate-Nitrite discharges. This concerns us in light of the 1998 data showing that DO levels below the Ambler plant are lower than those below the upstream Upper Gwynedd Township plant. We are concerned that continued or increased discharges from this plant may result in continued impairment of the Creek downstream of the Ambler plant.</p>	<p>Changes in nutrient wasteload allocations in the June 2003 draft TMDL report were the result of improved model representation as outlined in the Nutrient Modeling Report. The previous model was limited in its ability to represent specific processes in the stream which resulted in unrealistic reductions of nutrients from sewage treatment plants. As stated by the commentor, reductions from upstream dischargers will benefit the portion of Wissahickon Creek on which the Ambler STP is located, therefore limiting the necessary nutrient reductions from the plant. Modeling analysis predicted that no negative downstream impacts will result from the wasteload allocations assigned to Ambler STP.</p>

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Letter ID	Public Comment	EPA Response
40-06	The revised TMDL again indicates that the downstream reaches of the Wissahickon Creek will violate the DO standard if all flow ceases from Coorson's Quarry. We repeat our previous comment that the TMDL should compute a separate set of discharge limits that assume a cessation of discharges from the Quarry. DEP should notify each of the major dischargers that their NPDES permit would be re-opened and modified to reflect these new limits should the Quarry ceases its discharges..	The present NPDES permit for Coorson's Quarry requires a minimum flow of 0.5 cfs. Therefore, if the quarry ceases flow, the discharge permit will be violated. Appendix D of the TMDL report provides assurance that at the minimum discharge flow of 0.5 cfs, the TMDL does not result in additional violations of the DO criteria, and thus does not impact wasteload allocations.
40-07	The required nutrient reductions must be incorporated into the NPDES permits for the WWTPs that are up for renewal later this year and early in 2004. While a delay in meeting the new limits to allow for plant renovation may be appropriate, the limits must be incorporated into these new permits and cannot be allowed to wait for another five years.	EPA regulations at 40 CFR 122.44(d) require permits that are issued where a TMDL has been established be consistent with that TMDL. Permits issued after the TMDL is established for the Wissahickon Creek must meet that regulatory requirement.
40-08	While we support the recommendations regarding implementation of BMP's for Trewellyn Creek, Lorraine Run and the headwaters of Pine Run, the TMDL is silent on who will implement these BMP's, how and when. Encouraging infiltration and additional tree canopy are important changes, but absent information on how they will be implemented and by whom, we are skeptical of a "reasonable assurance of success".	The TMDL is intended to provide cleanup targets but not to prescribe all implementation requirements. These types of issues and questions must be addressed as the TMDL is implemented. The dischargers may want to consider canopy impacts on water quality or watershed groups may want to address BMP implementation through state grants. A watershed group may want to act as the foundation for gathering different groups together to establish a watershed approach to implementing various non-point source controls.
40-09	<p>The PA Department of Environmental Protection raised concerns about the possibility of reducing phosphorus concentrations in the Creek in order to reduce nuisance algae growth, which in turn could enable the Creek to better support other human use water quality standards. EPA's response in the June 2003 TMDL was to suggest that this topic be deferred until after the phosphorus limits in this TMDL have been met and further stream-specific studies done to determine low-growth phosphorus concentrations for the Creek.</p> <p>We do not support leaving this issue to some unspecified period. Since the current nutrient TMDL deals with phosphorus, it would seem sensible to address the algae issue in this current TMDL. If it is not possible to address this issue in the current TMDL in a timely fashion, a specific timetable should be established for further study and a deadline set for revising nutrient discharge standards in order to bring the Creek into compliance with Pennsylvania water quality standards.</p>	The commenter is referred to Appendix D of the TMDL report for more information on this issue. EPA also believes that the Wissahickon Creek watershed should continue to be monitored to observe the effectiveness of implementing the TMDL.

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Letter ID	Public Comment	EPA Response
40-10	<p>Instead of requiring the Creek to meet the potable water supply standard, the new TMDL allows it to be met at the Queen Lane water intake. This in turn allows dilution of the water from the Wissahickon Creek, with its high Nitrate-Nitrite levels, with water from the Schuylkill River, whose Nitrate-Nitrite levels are generally lower.</p> <p>Such an approach allows a greater level of risk to public health by permitting Nitrate-Nitrite levels in the Wissahickon to violate water quality criteria for potable water supply by over 50%. If for some reason, water drawn by the Queen Lane intake should contain a greater percentage of Wissahickon Creek water than EPA predicted, the Nitrate-Nitrite standard for drinking water could be violated. Given the potentially fatal nature of this illness, we believe EPA should utilize the more protective methodology from the January 2003 TMDL</p>	EPA believes that the current approach will adequately protect the City of Philadelphia's potable water supply.
40-11	We encourage EPA to revisit its decision to allocate sediment reductions more heavily to downstream communities, considering instead a more even approach.	This has been reconsidered. Please see the TMDL report and the sediment technical report.
40-12	<p>During the recent public hearing on the June 2003 draft, EPA staff indicated that the required reductions in Waste Load Allocations for each municipality will not be incorporated into their MS4 stormwater permits for at least ten years. In light of that fact, we are skeptical that there is a "reasonable assurance of success" for implementation of the sediment TMDL.</p> <p>In order to provide a "reasonable assurance of success", EPA should reopen and modify the MS4 permits applied for in March 2003 to incorporate the sediment WLA's developed by this TMDL. At a very minimum, the WLA's for sediment should be included in the MS-4 permits when they are renewed in 2008 in order to ensure that the reductions indicated by this TMDL are implemented.</p>	The phase II MS4 permits issued to municipalities following the March 2003 deadline include effluent requirements in the form of BMPs consistent with the national . Reporting information and additional data will allow the permits to be revisited in 2008 when they are scheduled for reissue.
41-01	Gobreski's e-mail for Robert Wendelgass (Same as # 40)	See Response to Letter # 40.

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Letter ID	Public Comment	EPA Response
42-01	While the Watershed Association believes that nutrients may be only a partial explanation for the creek's impairment, a position that the TMDL report seems to also hold, nutrients are a very significant factor affecting the condition of the stream. WVWA does not have the technical expertise to comment on the workings of the models, but without evidence to the contrary, assumes that the simulations are reasonably accurate predictors of future dissolved oxygen levels. The Wissahickon Valley Watershed Association's reaction to the TMDL report is that it is reasonable, will lead to needed improvements in water quality in the Wissahickon Creek and should be implemented. Following that, agencies should continue to study the creek, monitor progress in improving water quality and take further actions, if needed, to meet water quality standards.	EPA agrees that the Wissahickon Creek watershed should continue to be monitored to observe the effectiveness of implementing the TMDL.
43-01	E-mail commentor - General	See Response to Letter # 19.
44-01	E-mail commentor - General	See Response to Letter # 19.
45-01	E-mail commentor - General	See Response to Letter # 19.
46-01	E-mail commentor - General	See Response to Letter # 19.
47-01	E-mail commentor - General	See Response to Letter # 19.
48-01	E-mail commentor - General	See Response to Letter # 19.
49-01	E-mail commentor - General	See Response to Letter # 19.
50-01	E-mail commentor - General	See Response to Letter # 19.
51-01	E-mail commentor - General	See Response to Letter # 19.
52-01	E-mail commentor - General	See Response to Letter # 19.
53-01	E-mail commentor - General	See Response to Letter # 19.
54-01	E-mail commentor - General	See Response to Letter # 19.
55-01	E-mail commentor - General	See Response to Letter # 19.
56-01	E-mail commentor - General	See Response to Letter # 19.
57-01	E-mail commentor - General	See Response to Letter # 19.
58-01	E-mail commentor - General	See Response to Letter # 19.

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Letter ID	Public Comment	EPA Response
59-01	E-mail commentor - General	See Response to Letter # 19.
60-01	E-mail commentor - General	See Response to Letter # 19.
61-01	E-mail commentor - General	See Response to Letter # 19.
62-01	E-mail commentor - General	See Response to Letter # 19.
63-01	E-mail commentor - General	See Response to Letter # 19.
64-01	E-mail commentor - General	See Response to Letter # 19.
65-01	E-mail commentor - General	See Response to Letter # 19.
66-01	E-mail commentor - General	See Response to Letter # 19.
67-01	E-mail commentor - General	See Response to Letter # 19.
68-01	E-mail commentor - General	See Response to Letter # 19.
69-01	E-mail commentor - General	See Response to Letter # 19.
70-01	E-mail commentor - General	See Response to Letter # 19.
71-01	E-mail commentor - General	See Response to Letter # 19.
72-01	E-mail commentor - General	See Response to Letter # 19.
73-01	E-mail commentor - General	See Response to Letter # 19.
74-01	E-mail commentor - General	See Response to Letter # 19.
75-01	E-mail commentor - General	See Response to Letter # 19.
76-01	E-mail commentor - General	See Response to Letter # 19.
77-01	E-mail commentor - General	See Response to Letter # 19.
78-01	E-mail commentor - General	See Response to Letter # 19.
79-01	E-mail commentor - General	See Response to Letter # 19.
80-01	E-mail commentor - General	See Response to Letter # 19.
81-01	E-mail commentor - General	See Response to Letter # 19.
82-01	E-mail commentor - General	See Response to Letter # 19.
83-01	E-mail commentor - General	See Response to Letter # 19.

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Letter ID	Public Comment	EPA Response
84-01	E-mail commentor - General	See Response to Letter # 19.
85-01	E-mail commentor - General	See Response to Letter # 19.
86-01	E-mail commentor - General	See Response to Letter # 19.
87-01	E-mail commentor - General	See Response to Letter # 19.
88-01	E-mail commentor - General	See Response to Letter # 19.
89-01	E-mail commentor - General	See Response to Letter # 19.
90-01	E-mail commentor - General	See Response to Letter # 19.
91-01	E-mail commentor - General	See Response to Letter # 19.
92-01	E-mail commentor - General	See Response to Letter # 19.
93-01	E-mail commentor - General	See Response to Letter # 19.
94-01	E-mail commentor - General	See Response to Letter # 19.
95-01	E-mail commentor - General	See Response to Letter # 19.
96-01	E-mail commentor - General	See Response to Letter # 19.
97-01	E-mail commentor - General	See Response to Letter # 19.
98-01	E-mail commentor - General	See Response to Letter # 19.
99-01	E-mail commentor - General	See Response to Letter # 19.
100-01	E-mail commentor - General	See Response to Letter # 19.
101-01	Duplicate record of letter number 31.	See letter #31.
102-01	We support your efforts to attain and maintain the Pennsylvania water quality standards for the Wissahickon Creek. We remained concerned that the current TDML carries no assurance that the requisite reductions will ever be implemented. We urge the EPA to make its final Nutrient and Siltation TMDL Development for the Wissahickon Creek defensible, enforceable and effective in reducing the pollution levels currently experienced in the Wissahickon Creek.	Federal regulations at 40 CFR 122.44 require that a permit be consistent with any established TMDL. This will require implementation of the waste load allocations assigned to the point sources for both the nutrients and sediment. There are no similar requirements for allocations assigned to non-point sources. The TMDL does not add any new regulatory requirements for implementation but must rely on existing regulations.

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Letter ID	Public Comment	EPA Response
103-01	We note that the DEP and several municipalities within the watershed have offered technical comments on the modeling that we hope are addressed in the final TMDLs established for the Wissahickon Creek.	EPA has addressed all technical comments received.
103-02	The nutrient reduction proposed relies primarily on waste load allocations assigned to major publicly-owned waste water treatment plants. These reductions will be implemented through NPDES permit renewals. Though the treatment plant discharges are an important source of nutrients, the impact of the nutrients are further exacerbated by declining bedflow into the stream due to surrounding development and use of groundwater. Lack of riparian buffers, infiltration of stream flow into sewer lines, and dams could also enhance the negative impact of nutrient enrichment of the stream.	EPA agrees. Reduced base flow, increased development with its associated increase in storm water flow and velocity and increased waste water flow and pollutant loads have served as the basis for water quality concerns in the Wissahickon Creek watershed. Communities should address these concerns on a watershed basis in order to better assure that Wissahickon Creek water quality is protected.
103-03	We are aware of that several municipal wastewater treatment plant operators have raised concerns about their ability to meet the various proposed waste load allocations. One of the elements of the TMDL process is to establish standards that are reasonable to implement. It is unclear whether or not the proposed standards can be reasonably implemented by each authority without placing unfair cost burdens on their ratepayers. Some analysis of the practicality of these municipal treatment plant waste load allocations should be included in the report. Also, the report should offer some discussion of alternative measures to address nutrient standards such as various land control measures, bedflow enhancement, or changes to the established trout stock fishery use designation.	The TMDL does not address costs associated with meeting water quality standards. The purpose of the TMDL is to establish the pollutant loads (or other appropriate units) that are necessary to attain and maintain water quality standards. The point sources are 'permitted' to discharge pollutants to the receiving waters. As such they must assure that they are not negatively impacting the water quality. The discharge of pollutants that will violate this must be removed or reduced to a level where standards are met. We believe that the limits established by the TMDL are technically achievable, but possibly at a cost to the dischargers. We have received comments to the effect that the cost of meeting the limits necessary to attain water quality standards but with no supporting data. Alternatives to meeting the established effluent limits may be proposed by point sources, possibly as a trading opportunity. Again EPA believes this to be the responsibility of the point sources as the TMDL is implemented. A watershed approach should be considered - quit possibly organized by a watershed group or possibly by the Planning Commission.
103-04	The TMDL report establishes sediment waste load allocations for each municipality to address the siltation impairment.□The benefit of this is unclear since it appears that the watershed hydrologic conditions- the potential for quick high velocity floods- are more of a contributing factor to the sediment loads in the Wissahickon Creek. Efforts to reduce the volume and velocity of runoff should be pursued by the municipalities.	The sediment load is interconnected with the volume and velocity issue. If these can be controlled then the sediment load would be reduced and hence the TMDL met.

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Letter ID	Public Comment	EPA Response
103-05	The Pennsylvania Stormwater Management Act (Act 167) and most stormwater management ordinances implemented by municipalities are focused on preventing increased stormwater from new development, not retrofitting stormwater controls in developed areas. Despite the fact that only modest amounts of development are anticipated within the Wissahickon Creek Watershed in the next several decades, we have begun an Act 167 plan in the Sandy Run watershed and will develop a plan for the remaining portions of the Wissahickon Creek watershed in the near future.	Comment noted.
104-01	E-mail commentor - General	See Response to Letter # 19.
105-01	E-mail commentor - General	See Response to Letter # 19.
106-01	E-mail commentor - General	See Response to Letter # 19.
107-01	E-mail commentor - General	See Response to Letter # 19.
108-01	E-mail commentor - General	See Response to Letter # 19.
109-01	E-mail commentor - General	See Response to Letter # 19.
110-01	E-mail commentor - General	See Response to Letter # 19.
111-01	E-mail commentor - General	See Response to Letter # 19.
112-01	E-mail commentor - General	See Response to Letter # 19.
113-01	E-mail commentor - General	See Response to Letter # 19.
114-01	E-mail commentor - General	See Response to Letter # 19.
115-01	E-mail commentor - General	See Response to Letter # 19.
116-01	E-mail commentor - General	See Response to Letter # 19.
117-01	E-mail commentor - General	See Response to Letter # 19.
118-01	E-mail commentor - General	See Response to Letter # 19.
119-01	E-mail commentor - General	See Response to Letter # 19.
120-01	E-mail commentor - General	See Response to Letter # 19.
121-01	E-mail commentor - General	See Response to Letter # 19.
122-01	E-mail commentor - General	See Response to Letter # 19.

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Letter ID	Public Comment	EPA Response
123-01	E-mail commentor - General	See Response to Letter # 19.
124-01	E-mail commentor - General	See Response to Letter # 19.
125-01	E-mail commentor - General	See Response to Letter # 19.
126-01	E-mail commentor - General	See Response to Letter # 19.
127-01	E-mail commentor - General	See Response to Letter # 19.
128-01	E-mail commentor - General	See Response to Letter # 19.
129-01	E-mail commentor - General	See Response to Letter # 19.
130-01	E-mail commentor - General	See Response to Letter # 19.
131-01	E-mail commentor - General	See Response to Letter # 19.
132-01	E-mail commentor - General	See Response to Letter # 19.
133-01	E-mail commentor - General	See Response to Letter # 19.
134-01	E-mail commentor - General	See Response to Letter # 19.
135-01	E-mail commentor - General	See Response to Letter # 19.
136-01	E-mail commentor - General	See Response to Letter # 19.
137-01	E-mail commentor - General	See Response to Letter # 19.
138-01	E-mail commentor - General	See Response to Letter # 19.
139-01	E-mail commentor - General	See Response to Letter # 19.
140-01	E-mail commentor - General	See Response to Letter # 19.
141-01	E-mail commentor - General	See Response to Letter # 19.
142-01	E-mail commentor - General	See Response to Letter # 19.
143-01	E-mail commentor - General	See Response to Letter # 19.
144-01	E-mail commentor - General	See Response to Letter # 19.
145-01	E-mail commentor - General	See Response to Letter # 19.
146-01	E-mail commentor - General	See Response to Letter # 19.
147-01	E-mail commentor - General	See Response to Letter # 19.

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Letter ID	Public Comment	EPA Response
148-01	E-mail commentor - General	See Response to Letter # 19.
149-01	E-mail commentor - General	See Response to Letter # 19.
150-01	E-mail commentor - General	See Response to Letter # 19.
151-01	E-mail commentor - General	See Response to Letter # 19.
152-01	E-mail commentor - General	See Response to Letter # 19.
153-01	E-mail commentor - General	See Response to Letter # 19.
154-01	E-mail commentor - General	See Response to Letter # 19.
155-01	E-mail commentor - General	See Response to Letter # 19.
156-01	E-mail commentor - General	See Response to Letter # 19.
157-01	E-mail commentor - General	See Response to Letter # 19.
158-01	E-mail commentor - General	See Response to Letter # 19.
159-01	E-mail commentor - General	See Response to Letter # 19.
160-01	E-mail commentor - General	See Response to Letter # 19.
161-01	E-mail commentor - General	See Response to Letter # 19.
162-01	E-mail commentor - General	See Response to Letter # 19.
163-01	E-mail commentor - General	See Response to Letter # 19.
164-01	E-mail commentor - General	See Response to Letter # 19.
165-01	E-mail commentor - General	See Response to Letter # 19.
166-01	E-mail commentor - General	See Response to Letter # 19.
167-01	E-mail commentor - General	See Response to Letter # 19.
168-01	E-mail commentor - General	See Response to Letter # 19.
169-01	E-mail commentor - General	See Response to Letter # 19.
170-01	E-mail commentor - General	See Response to Letter # 19.
171-01	E-mail commentor - General	See Response to Letter # 19.
172-01	E-mail commentor - General	See Response to Letter # 19.

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Letter ID	Public Comment	EPA Response
173-01	E-mail commentor - General	See Response to Letter # 19.
174-01	E-mail commentor - General	See Response to Letter # 19.
175-01	E-mail commentor - General	See Response to Letter # 19.
176-01	E-mail commentor - General	See Response to Letter # 19.
177-01	E-mail commentor - General	See Response to Letter # 19.
178-01	E-mail commentor - General	See Response to Letter # 19.
179-01	E-mail commentor - General	See Response to Letter # 19.
180-01	E-mail commentor - General	See Response to Letter # 19.
181-01	E-mail commentor - General	See Response to Letter # 19.
182-01	E-mail commentor - General	See Response to Letter # 19.
183-01	E-mail commentor - General	See Response to Letter # 19.
184-01	E-mail commentor - General	See Response to Letter # 19.
185-01	E-mail commentor - General	See Response to Letter # 19.
186-01	E-mail commentor - General	See Response to Letter # 19.
187-01	E-mail commentor - General	See Response to Letter # 19.
188-01	E-mail commentor - General	See Response to Letter # 19.
189-01	E-mail commentor - General	See Response to Letter # 19.
190-01	E-mail commentor - General	See Response to Letter # 19.
191-01	E-mail commentor - General	See Response to Letter # 19.
192-01	E-mail commentor - General	See Response to Letter # 19.
193-01	E-mail commentor - General	See Response to Letter # 19.
194-01	E-mail commentor - General	See Response to Letter # 19.
195-01	E-mail commentor - General	See Response to Letter # 19.
196-01	E-mail commentor - General	See Response to Letter # 19.
197-01	E-mail commentor - General	See Response to Letter # 19.

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Letter ID	Public Comment	EPA Response
198-01	E-mail commentor - General	See Response to Letter # 19.
199-01	E-mail commentor - General	See Response to Letter # 19.
200-01	E-mail commentor - General	See Response to Letter # 19.
201-01	E-mail commentor - General	See Response to Letter # 19.
202-01	E-mail commentor - General	See Response to Letter # 19.
203-01	E-mail commentor - General	See Response to Letter # 19.
204-01	E-mail commentor - General	See Response to Letter # 19.
205-01	E-mail commentor - General	See Response to Letter # 19.
206-01	E-mail commentor - General	See Response to Letter # 19.
207-01	E-mail commentor - General	See Response to Letter # 19.
208-01	E-mail commentor - General	See Response to Letter # 19.
209-01	E-mail commentor - General	See Response to Letter # 19.
210-01	E-mail commentor - General	See Response to Letter # 19.
211-01	E-mail commentor - General	See Response to Letter # 19.
212-01	E-mail commentor - General	See Response to Letter # 19.
213-01	E-mail commentor - General	See Response to Letter # 19.
214-01	E-mail commentor - General	See Response to Letter # 19.
215-01	E-mail commentor - General	See Response to Letter # 19.
216-01	E-mail commentor - General	See Response to Letter # 19.
217-01	E-mail commentor - General	See Response to Letter # 19.
218-01	E-mail commentor - General	See Response to Letter # 19.
219-01	E-mail commentor - General	See Response to Letter # 19.
220-01	E-mail commentor - General	See Response to Letter # 19.
221-01	E-mail commentor - General	See Response to Letter # 19.
222-01	E-mail commentor - General	See Response to Letter # 19.

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Letter ID	Public Comment	EPA Response
223-01	E-mail commentor - General	See Response to Letter # 19.
224-01	E-mail commentor - General	See Response to Letter # 19.
225-01	E-mail commentor - General	See Response to Letter # 19.
226-01	E-mail commentor - General	See Response to Letter # 19.
227-01	E-mail commentor - General	See Response to Letter # 19.
228-01	E-mail commentor - General	See Response to Letter # 19.
229-01	E-mail commentor - General	See Response to Letter # 19.
230-01	E-mail commentor - General	See Response to Letter # 19.
231-01	E-mail commentor - General	See Response to Letter # 19.
232-01	E-mail commentor - General	See Response to Letter # 19.
233-01	E-mail commentor - General	See Response to Letter # 19.
234-01	E-mail commentor - General	See Response to Letter # 19.
235-01	E-mail commentor - General	See Response to Letter # 19.
236-01	Standards must continue through September each year to protect the creek when it is most vulnerable. Ending the strongest protections on July 31 of each year is unacceptable. The Creek is at risk from pollution through the summer months.	Please see response to comment 40-03.
236-02	The "low flow" calculation used in the TMDL is two and a half times higher than the measured flow. This devised number will not provide adequate reductions of pollutants. The TMDL	Please see response to comment 40-02.
236-03	Excessive nutrient pollution must be tightly regulated. All upstream sewage treatment plants must reduce their nutrient discharges. The largest treated plants cannot be exempt from responsibility to the environment.	Please see response to comment 40-05.

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Letter ID	Public Comment	EPA Response
236-04	The Wissahickon Creek must meet the drinking water quality standards for nitrates and nitrites at its mouth. It is not acceptable to expect water from the Schuylkill River to dilute nutrient pollution to meet to drinking water standards. Water drawn by the Queen Lane intake could contain more Wissahickon Creek water than predicted violating the Nitrate-Nitrite standard. The potentially fatal nature of "Blue Baby" syndrome puts water consumers in danger. Please set the health and welfare of people as your highest priority.	Please see response to comment 40-10.
237-01	E-mail commentor - General	See Response to Letter # 19.
238-01	E-mail commentor - General	See Response to Letter # 19.
239-01	E-mail commentor - General	See Response to Letter # 19.
240-01	E-mail commentor - General	See Response to Letter # 19.
241-01	E-mail commentor - General	See Response to Letter # 19.
242-01	E-mail commentor - General	See Response to Letter # 19.
243-01	E-mail commentor - General	See Response to Letter # 19.
244-01	E-mail commentor - General	See Response to Letter # 19.
245-01	E-mail commentor - General	See Response to Letter # 19.
246-01	E-mail commentor - General	See Response to Letter # 19.
247-01	E-mail commentor - General	See Response to Letter # 19.
248-01	E-mail commentor - General	See Response to Letter # 19.
249-01	E-mail commentor - General	See Response to Letter # 19.
250-01	E-mail commentor - General	See Response to Letter # 19.
251-01	E-mail commentor - General	See Response to Letter # 19.
252-01	E-mail commentor - General	See Response to Letter # 19.
253-01	E-mail commentor - General	See Response to Letter # 19.
254-01	E-mail commentor - General	See Response to Letter # 19.
255-01	E-mail commentor - General	See Response to Letter # 19.

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Letter ID	Public Comment	EPA Response
256-01	E-mail commentor - General	See Response to Letter # 19.
257-01	E-mail commentor - General	See Response to Letter # 19.
258-01	E-mail commentor - General	See Response to Letter # 19.
259-01	E-mail commentor - General	See Response to Letter # 19.
260-01	E-mail commentor - General	See Response to Letter # 19.
261-01	E-mail commentor - General	See Response to Letter # 19.
262-01	E-mail commentor - General	See Response to Letter # 19.
263-01	E-mail commentor - General	See Response to Letter # 19.
264-01	E-mail commentor - General	See Response to Letter # 19.
265-01	E-mail commentor - General	See Response to Letter # 19.
266-01	E-mail commentor - General	See Response to Letter # 19.
267-01	E-mail commentor - General	See Response to Letter # 19.
268-01	E-mail commentor - General	See Response to Letter # 19.
269-01	E-mail commentor - General	See Response to Letter # 19.
270-01	E-mail commentor - General	See Response to Letter # 19.
271-01	E-mail commentor - General	See Response to Letter # 19.
272-01	E-mail commentor - General	See Response to Letter # 19.
273-01	E-mail commentor - General	See Response to Letter # 19.
274-01	E-mail commentor - General	See Response to Letter # 19.
275-01	E-mail commentor - General	See Response to Letter # 19.
276-01	E-mail commentor - General	See Response to Letter # 19.
277-01	E-mail commentor - General	See Response to Letter # 19.
278-01	E-mail commentor - General	See Response to Letter # 19.
279-01	E-mail commentor - General	See Response to Letter # 19.
280-01	E-mail commentor - General	See Response to Letter # 19.

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Letter ID	Public Comment	EPA Response
281-01	E-mail commentor - General	See Response to Letter # 19.
282-01	E-mail commentor - General	See Response to Letter # 19.
283-01	E-mail commentor - General	See Response to Letter # 19.
284-01	E-mail commentor - General	See Response to Letter # 19.
285-01	E-mail commentor - General	See Response to Letter # 19.
286-01	E-mail commentor - General	See Response to Letter # 19.
287-01	E-mail commentor - General	See Response to Letter # 19.
288-01	E-mail commentor - General	See Response to Letter # 19.
289-01	E-mail commentor - General	See Response to Letter # 19.
290-01	E-mail commentor - General	See Response to Letter # 19.
291-01	E-mail commentor - General	See Response to Letter # 19.
292-01	E-mail commentor - General	See Response to Letter # 19.
293-01	E-mail commentor - General	See Response to Letter # 19.
294-01	E-mail commentor - General	See Response to Letter # 19.
295-01	E-mail commentor - General	See Response to Letter # 19.
296-01	E-mail commentor - General	See Response to Letter # 19.
297-01	E-mail commentor - General	See Response to Letter # 19.
298-01	E-mail commentor - General	See Response to Letter # 19.
299-01	E-mail commentor - General	See Response to Letter # 19.
300-01	E-mail commentor - General	See Response to Letter # 19.
301-01	E-mail commentor - General	See Response to Letter # 19.
302-01	E-mail commentor - General	See Response to Letter # 19.
303-01	E-mail commentor - General	See Response to Letter # 19.
304-01	E-mail commentor - General	See Response to Letter # 19.
305-01	E-mail commentor - General	See Response to Letter # 19.

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Letter ID	Public Comment	EPA Response
306-01	E-mail commentor - General	See Response to Letter # 19.
307-01	E-mail commentor - General	See Response to Letter # 19.
308-01	E-mail commentor - General	See Response to Letter # 19.
309-01	E-mail commentor - General	See Response to Letter # 19.
310-01	E-mail commentor - General	See Response to Letter # 19.
311-01	E-mail commentor - General	See Response to Letter # 19.
312-01	E-mail commentor - General	See Response to Letter # 19.
313-01	E-mail commentor - General	See Response to Letter # 19.
314-01	E-mail commentor - General	See Response to Letter # 19.
315-01	E-mail commentor - General	See Response to Letter # 19.
316-01	E-mail commentor - General	See Response to Letter # 19.
317-01	E-mail commentor - General	See Response to Letter # 19.
318-01	E-mail commentor - General	See Response to Letter # 19.
319-01	E-mail commentor - General	See Response to Letter # 19.
320-01	E-mail commentor - General	See Response to Letter # 19.
321-01	E-mail commentor - General	See Response to Letter # 19.
322-01	E-mail commentor - General	See Response to Letter # 19.
323-01	E-mail commentor - General	See Response to Letter # 19.
324-01	E-mail commentor - General	See Response to Letter # 19.
325-01	E-mail commentor - General	See Response to Letter # 19.
326-01	E-mail commentor - General	See Response to Letter # 19.
327-01	E-mail commentor - General	See Response to Letter # 19.
328-01	E-mail commentor - General	See Response to Letter # 19.
329-01	E-mail commentor - General	See Response to Letter # 19.
330-01	E-mail commentor - General	See Response to Letter # 19.

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Letter ID	Public Comment	EPA Response
331-01	E-mail commentor - General	See Response to Letter # 19.
332-01	E-mail commentor - General	See Response to Letter # 19.
333-01	E-mail commentor - General	See Response to Letter # 19.
334-01	E-mail commentor - General	See Response to Letter # 19.
335-01	E-mail commentor - General	See Response to Letter # 19.
336-01	E-mail commentor - General	See Response to Letter # 19.
337-01	E-mail commentor - General	See Response to Letter # 19.
338-01	E-mail commentor - General	See Response to Letter # 19.
339-01	E-mail commentor - General	See Response to Letter # 19.
340-01	E-mail commentor - General	See Response to Letter # 19.
341-01	E-mail commentor - General	See Response to Letter # 19.
342-01	E-mail commentor - General	See Response to Letter # 19.
343-01	E-mail commentor - General	See Response to Letter # 19.
344-01	E-mail commentor - General	See Response to Letter # 19.
345-01	E-mail commentor - General	See Response to Letter # 19.
346-01	E-mail commentor - General	See Response to Letter # 19.
347-01	E-mail commentor - General	See Response to Letter # 19.
348-01	E-mail commentor - General	See Response to Letter # 19.
349-01	E-mail commentor - General	See Response to Letter # 19.
350-01	E-mail commentor - General	See Response to Letter # 19.
351-01	E-mail commentor - General	See Response to Letter # 19.
352-01	E-mail commentor - General	See Response to Letter # 19.
353-01	E-mail commentor - General	See Response to Letter # 19.
354-01	E-mail commentor - General	See Response to Letter # 19.
355-01	E-mail commentor - General	See Response to Letter # 19.

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Letter ID	Public Comment	EPA Response
356-01	E-mail commentor - General	See Response to Letter # 19.
357-01	E-mail commentor - General	See Response to Letter # 19.
358-01	E-mail commentor - General	See Response to Letter # 19.
359-01	Duplicate record - see letter number 38.	See letter #38
360-01	E-mail commentor - General	See Response to Letter # 19.
361-01	E-mail commentor - General	See Response to Letter # 19.
362-01	E-mail commentor - General	See Response to Letter # 19.
363-01	E-mail commentor - General	See Response to Letter # 19.
364-01	E-mail commentor - General	See Response to Letter # 19.
365-01	E-mail commentor - General	See Response to Letter # 19.
366-01	E-mail commentor - General	See Response to Letter # 19.
367-01	E-mail commentor - General	See Response to Letter # 19.
368-01	E-mail commentor - General	See Response to Letter # 19.
369-01	E-mail commentor - General	See Response to Letter # 19.
370-01	E-mail commentor - General	See Response to Letter # 19.
371-01	E-mail commentor - General	See Response to Letter # 19.
372-01	E-mail commentor - General	See Response to Letter # 19.
373-01	E-mail commentor - General	See Response to Letter # 19.
374-01	E-mail commentor - General	See Response to Letter # 19.
375-01	E-mail commentor - General	See Response to Letter # 19.
376-01	E-mail commentor - General	See Response to Letter # 19.
377-01	E-mail commentor - General	See Response to Letter # 19.
378-01	E-mail commentor - General	See Response to Letter # 19.
379-01	E-mail commentor - General	See Response to Letter # 19.
380-01	E-mail commentor - General	See Response to Letter # 19.

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Letter ID	Public Comment	EPA Response
381-01	E-mail commentor - General	See Response to Letter # 19.
382-01	E-mail commentor - General	See Response to Letter # 19.
383-01	E-mail commentor - General	See Response to Letter # 19.
384-01	E-mail commentor - General	See Response to Letter # 19.
385-01	E-mail commentor - General	See Response to Letter # 19.
386-01	E-mail commentor - General	See Response to Letter # 19.
387-01	E-mail commentor - General	See Response to Letter # 19.
388-01	E-mail commentor - General	See Response to Letter # 19.
389-01	E-mail commentor - General	See Response to Letter # 19.
390-01	E-mail commentor - General	See Response to Letter # 19.
391-01	E-mail commentor - General	See Response to Letter # 19.
392-01	E-mail commentor - General	See Response to Letter # 19.
393-01	E-mail commentor - General	See Response to Letter # 19.
394-01	E-mail commentor - General	See Response to Letter # 19.
395-01	E-mail commentor - General	See Response to Letter # 19.
396-01	E-mail commentor - General	See Response to Letter # 19.
397-01	E-mail commentor - General	See Response to Letter # 19.
398-01	E-mail commentor - General	See Response to Letter # 19.
399-01	E-mail commentor - General	See Response to Letter # 19.
400-01	E-mail commentor - General	See Response to Letter # 19.
401-01	E-mail commentor - General	See Response to Letter # 19.
402-01	E-mail commentor - General	See Response to Letter # 19.
403-01	E-mail commentor - General	See Response to Letter # 19.
404-01	E-mail commentor - General	See Response to Letter # 19.
405-01	E-mail commentor - General	See Response to Letter # 19.

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Letter ID	Public Comment	EPA Response
406-01	E-mail commentor - General	See Response to Letter # 19.
407-01	E-mail commentor - General	See Response to Letter # 19.
408-01	E-mail commentor - General	See Response to Letter # 19.
409-01	E-mail commentor - General	See Response to Letter # 19.
410-01	E-mail commentor - General	See Response to Letter # 19.
411-01	E-mail commentor - General	See Response to Letter # 19.
412-01	E-mail commentor - General	See Response to Letter # 19.
413-01	E-mail commentor - General	See Response to Letter # 19.
414-01	E-mail commentor - General	See Response to Letter # 19.
415-01	E-mail commentor - General	See Response to Letter # 19.
416-01	E-mail commentor - General	See Response to Letter # 19.
417-01	E-mail commentor - General	See Response to Letter # 19.